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**RURAL NOTES.**

There is this to be said for artificial or mineral manures, that there is no fear of sowing with them a drop of weeds, which is too often the case when barn-yard manure is used.

Fall wheat showed marked improvement during the last three weeks of its growth, and the yield will not fall much under the average of four or five years ago. But the quality has in many localities been considerably injured by rust, especially on low lands.

William Woolsey, of Maryland, reputed to be the best farmer in that State, says that a cross of Devon and Jersey is much better for butter and milk than pure Jerseys. If this is true, the fact is worth knowing at a time when fabulous prices are paid for pure Jerseys.

In one county in the State of Maryland the pack of canned fruit last year is estimated at \$7,000,000, but probably this is an exaggeration. There is no doubt that the business is profitable, and there are some counties of Ontario in which it might be carried on with success. With us this industry is yet in its infancy, but it will grow.

An effectual way of destroying the aphid, the red spider, and other plant vermin, is to dip the plant which they infest in water of 120° temperature; or, if the plant cannot be dipped in the water, then apply the water with a syringe. There are few plants that will not withstand water at this temperature for a sufficient time to destroy the insect life.

Mr. Orange Judd, so widely known in connection with the *American Agriculturist*, which he founded and of which he has always been the active head, has gone into bankruptcy. Excessive generosity, and bad real estate ventures, are said to be the cause. He is left penniless in his old age, if report be true; but the *Agriculturist*, it is said, is not involved.

It is not generally known that in many parts of Ontario the native pasture grass is the same as the blue grass of Kentucky. There is no doubt, we think, that it might be grown successfully everywhere in the Province if the seed was sown. In the dairy regions especially an effort should be made to introduce it. In northern Iowa thousands of bushels of seed have been procured from Kentucky and sown for permanent pasture.

The drop in the price of hops has been disappointing to the speculators, some of whom have lost heavily. One cause of the sudden change of the market is the shipping of large quantities from Australia to England, and, although of

poorer quality than the American article, it promises to become a pretty strong rival hereafter. Australian farmers are now going into hop-growing on an extensive scale.

Different lands require different fertilizers, and no man can tell exactly the elements his field requires except by experiment. There is, for instance, a good deal of discussion over the value of salt. The Huron farmer will say it has no visible effect, while the York farmer will say its use is very beneficial. The explanation is, that while the saline element is abundant in the soil of one country, it is deficient in that of the other.

The haying season has been very unpropitious, and much of the crop has been poorly cured. But the first days were the worst; there were a number of fine days for working as well as for curing, and the crop being an extraordinarily heavy one the fodder supply is ample for the country's requirements. If the foreign demand for hay was as good as the demand for grain, or if cattle feeding was more general, the hay crop of this year would undoubtedly give our farmers a large and handsome return.

The common practice among farmers is, to turn in their cattle and let them eat down the stubble of meadow fields still closer after the hay crop is removed. This may not be injurious in a wet season, but it is much better to let the grass alone until it makes a vigorous second growth. Better still, give the meadows a liberal top dressing of well-rotted stable manure, bone dust, ashes, or some other beneficial fertilizer, and so make sure of a good crop next year. Hay and pasture are the foundation of our agricultural wealth, and they should be given a fair treatment.

Farmers whose corn-land was well under-drained this year had no difficulty in getting their seed planted in good season; and in spite of the heavy and frequent rainfalls it has made good growth. But in a great many cases the work was delayed until an unusually late period, and in others the seed rotted in the ground. In some parts of the country, but more especially in the corn-growing counties of the south-western peninsula, many fields were not planted until the second week of July, farmers being hopeful of getting the proverbial ninety days required for maturing the crop before the advent of autumn frosts.

English papers by last mail show that extraordinary prices were realized last week at the sale of a draft of the shorthorns of Mr. Helford, of Cerno Abbas, whose herd was established ten years ago in Leicestershire. The average for thirty-two cows was 176ga, and for five bulls,

822ga. Duchess of Leinster, a splendid and beautifully shaped animal, fetched 1,150ga, which was given by Lord F. Lardinge, after a sharp competition with Sir Curtis Lampson. The daughter of this cow was sold to Lord Bective for 1,502ga. The bull, Duke of Leinster, went to Berkeley Castle at 900ga. Several lots were bought for breeders in the United States and Canada. Among Mr. Helford's herd are two cows which were bought at the Bowness sale in 1877 for 8,400ga.

CLEANLINESS in the milking of cows is a matter of very great interest in relation to health. To sell watered milk is a crime, but to sell dirty milk is no offence. And yet of the two the latter is the one that affects life and health. Most milk-drinkers must have seen a deposit of dark-coloured particles at the bottom of a glass that has stood for a short time, before drinking it. These particles when examined under a microscope are often found to be not dirt of a harmless kind, as we in our innocence suppose—but veritable cow-dung. The animal rises in the morning from her bed in the stall, and without any washing or brushing of the udder the milker puts down his open-mouthed pail and begins his work. And this is how, in nine cases out of ten, the dirt in the milk has its origin. Is it not reasonable to ask that the sale of dirty milk should be made a crime, as well as the sale of watered milk? The thing to be aimed at should be to obtain and store and serve out the milk clean and pure. Milk impregnated with the germs of disease needs looking after in the most vigilant of ways.

A WHOLESALE commission firm of Chicago has reports as to the fruit outlook from 8,000 points. From these the following summary has been prepared:—Apples—New York, Pennsylvania, Ohio, Indiana, and Ontario, Canada, 48 per cent.; Michigan, Missouri, and Kentucky, 55 per cent.; Tennessee, Virginia, North Carolina, Arkansas, and Eastern Kansas, 75 per cent.; Southern Illinois, California, Oregon, Quebec, Canada, 110 per cent., making the general average 69 per cent. as against 53 per cent. last year. Peaches—Kentucky, Michigan, 50 per cent.; New York and Pennsylvania, 75 per cent.; Illinois, 90 per cent.; Virginia, 100 per cent.; Georgia, 50 per cent.; Mississippi, 110 per cent.; Delaware, 80 per cent.; Maryland, 60 per cent. General average, 78 per cent. as against 75 per cent. last year. Small Fruits—The crop of small fruits is generally good. Raspberries especially will be a much larger crop than usual, probably three times larger than last year, which was less than the average; blackberries are above the average, and plums an average crop. Cherries fall a little short of an average crop.

## FARM AND FIELD.

### WEEDS AND WEED KILLING.

The killing of weeds is an old story, but it is one that needs to be brought to mind very frequently. There is very little that is absolutely new in any business, and therefore the great bulk of the work of this year is the same as that done last year. The leading pests of the farmer or gardener are weeds and insects, and against these there must be a constant warfare waged throughout the whole growing season, if not during the entire year. The success of nearly all crops depends largely upon the attention given to them after the seed is sown. This fact is not so manifest with the common grains, such as oats, barley and wheat; but if we consider that it is the work of other crops to clean the land of weeds and prepare the soil for these quick-growing grains, the statement is not so far out of the way.

There is always a call for the best method of killing weeds as there is for the best way of disposing of any pest. We have frequently been asked to mention some substance that could be put on the soil, to either kill the weeds then growing or prevent others from starting. It should be kept in mind that weeds are simply plants that are not profitable. One authority has defined a weed as "a plant out of place," and it is an excellent definition. Common grass may be a weed when growing in a field of roots or corn. In the same way a rose bush, or a poppy; in fact any plant may be a weed under the conditions mentioned above; namely, when not in the proper place.

The use of some salt, it is evident, is out of the question where other plants are to grow. Common salt may be put upon a gravel walk to kill all weeds, but in such a place no plants are expected to grow. This using of some weed killer reminds us of a man who had a substance to put around the trunks of apple trees to prevent the codling moth from getting into the apples. This compound would, as its compounder said, cleanse the soil from all sorts of vermin. There are cases where common salt has been used to destroy the vile Canada thistle. After the crops of this weed had been cut down, it has been found that salt sprinkled on the stubs or stumps of the thistles has had a good effect. One of the best methods of killing a plant is to cut it off close to the ground when in full flower, and it may be that there is more virtue in the time and method of cutting than the salt that was afterwards applied.

There are some general rules to be observed in weed killing. In the first place, it is much easier to kill a weed when it is small than at any later period of its growth. This fact is almost self-evident, and yet many farmers go on as if there was no truth in the statement. The quickest way to dispose of weeds is while they are still in the seed condition. In other words sow only pure seed, and separate and kill all foul seed, as it is termed. If many western farmers had been more careful with the seed of clover and various grains brought from the east they would to-day have far less work to keep their land clean. Some one found over forty kinds of weed seeds in a sample of clover seed.

If the weed seed is in the soil, the quickest way to get it out is to produce favourable conditions for germination and then kill the young plants as soon as they start. Some foul seed will remain alive for many years when buried in a soil so that they cannot grow.

It is not always possible to kill weeds when they are small, and the next best thing is to prevent them from forming seed. The number of seed or offspring formed by some kinds of weeds is very large. By careful estimate it has been found that

a single pursley plant will form a million seeds, and do it without any apparent trouble. The methods which weed seeds have of being distributed are numerous. Some of them have hooks or barbs, by means of which they cling to the hair and wool of animals, while others are provided, like the Canada thistle, with balloons, by which they are carried far up into the atmosphere and across field and river.

Now is the time to kill the weeds, before they have even produced any flowers. The roadsides are the nurseries of foul plants. Many farmers throw all the screenings from the fanning mills into the roadway, where they are tracked and otherwise scattered far and wide. All weed seeds should be burned. We once saw a lane that was lined with dock on both sides, hanging full of their triangular seeds. All other parts of the farm were kept fairly clean, but the lanesides produced a large supply of seeds to continue the work of weed-killing from year to year.

The price of clean fields is eternal vigilance, and it pays to make the payment weekly, and not monthly or yearly.—*Farmer's Review.*

### MANAGEMENT OF POULTRY MANURE.

In reply to an inquiry on the best method of preserving and preparing poultry manure, Mr. H. Stewart writes to the *Country Gentleman* as follows:

Poultry manure is the most valuable of our home-made fertilizers; but, like all other manures, it is not because it is made by fowls that it is so valuable, but because of the peculiarly rich feeding of the fowls. This should not be forgotten in regard to all kinds of manure, because we can make them rich or poor as we feed the animals well or ill. Poultry manure of the ordinary kind is more or less valuable, according to its condition, as is shown here: There are in 1,000 pounds of hen manure 560 pounds of water, 16.3 of nitrogen, 8.5 of potash, and 15.4 of phosphoric acid. In 1,000 pounds of guano there are 148 pounds of water, 180 of nitrogen, twenty-three of potash, and 180 of phosphoric acid.

But if we get rid of the excess of water in the poultry manure, we nearly double its proportionate value, and bring it so much nearer in quality to guano. Again, guano is reduced by decomposition to a very soluble condition, and its actual value is increased because of the immediate availability of its elements. If we can, then, so prepare hen manure as to make its potential value available at once, we further add to its actual value, and bring it still nearer in comparison to the value of the standard fertilizer, guano. Now this we can do, as suggested by my correspondent, by preparation. But this preparation must be such as will not waste any volatile element, which may be set loose in the decomposition, and that yet will produce the required decomposition. I have studied and experimented over this matter, and I think I have got this manure in its most available condition, because I have increased its solubility four times above that of its fresh condition. Farther, I have added to its fertilizing value by adding to the feed of my fowls bran and crushed fresh raw bones, which they consume with avidity, and with the best results as regards their health, production of eggs, and the certainty of hatching and producing strong chicks. But these are mentioned only by the way. In testing poultry manure with corn and melons, compared with stable manure and guano, I find a large handful of the former to be equal in every way to a heaping shovelful of the best stable manure, and a small handful (about one-fourth as much) of guano. The manure is prepared in the following manner. Every week the droppings are scraped up from the floor, which is of earth, and

kept ready. The floor is then well dusted all over with earth dug from the yard outside and thrown in very easily through the window; air-slaked lime is then dusted over this until it is quite white. The droppings fall upon the lime, and when they are gathered they are scraped up with the lime and earth and put into the barrels. The barrels are kept out of doors, but covered to prevent exposure to rain. In three months the contents of a barrel become a brown soft powder, having but little appearance of the manure left, and as I have said, is four times as soluble as the fresh manure when it is taken out of the house—lime and earth mixed with it. Of the fresh manure, but two to three parts are soluble after drying it, while ten to twelve parts of compost, after three or four months, are soluble. I think manure made and prepared in this way is worth \$20 a ton, or seven times the value, here, of the best stable manure, and one-fourth the value of Peruvian guano. A flock of twenty-two hens, kept in one house, has made since November last up to last week, five barrels, or about 1,000 pounds of the mixed compost, of which at least one-third is clear droppings. This quantity I am sure is worth \$10. I choose air-slaked lime in preference to plaster, because of its useful effect in decomposing the manure, and the abundant organic matter—decaying sod—in the earth. The earth absorbs any ammonia which may be formed in the compost—is, in fact, one of those nitre beds which were once used to produce nitric acid by the nitrification of organic matter by the help of lime. The mixture is packed solidly in the barrels, and is kept moist enough by absorption from the air to effect the nitrification. No doubt longer keeping would add still more to the solubility of the manure, by more completely disorganizing the organic matter, and more thoroughly effecting the nitrification. Plaster will simply keep the elements in the manure inert, and would be like putting the talent in the napkin or burying it in the earth; it is safe, but it has made no usury. Lime effects the necessary decomposition, which plaster does not.

### ROOT CULTURE.

Many reasons combine to prevent root crops assuming the important position in the agricultural economy of this country that they have long held in European farming. The great bulk of sugar consumed in France and Germany is made from the beet. Besides the sugar cane of our Southern States, American farmers have the sweet of the maple and the newly discovered amber sugar cane adapted to northern latitudes. We cannot make roots a main feeding crop, as does the English farmer, for with us labour is comparatively dear, and we can grow a better substitute in corn, either for the grain or fodder, more economically. Our hot, dry summers are admirably adapted to the corn crop, while they are comparatively as little fitted for successful root growing. We can never hope to rival moister climates in growing roots for stock. The ensilage of corn, clover and other green herbage makes the growing of roots less important. For milk production ensilage food is ordinarily more profitable than roots. We believe so thoroughly, however, in giving stock a variety in their diet, that on every farm where stock growing is an important interest, enough of turnips, beets, carrots and parsnips should be grown to give occasional feeding by way of change, even if the practice cannot be defended from the pecuniary standpoint above.

A common mistake in growing roots is sowing too early and aiming at large size rather than quality. A medium-sized root quickly grown is much better than one planted so early that before

time for digging it has become pithy, stringy and tasteless. Roots are not really grown simply for the nutriment they contain, but as appetizers and to promote the digestion of other-food. We have sown sugar beets up to the middle of July and turnips to the first of August, and had crops easily grown and requiring less labour in cultivation than in harvesting. If thoroughly cleaned once, these root crops soon shade the ground and make future weed growth almost impossible. To do this easily and cheaply, however, the rows must be so straight that nearly all the work can be done by machinery. The weeds must be killed when the slightest scratch of the surface suffices for their destruction. In this way it is not difficult to grow parsnips and even carrots, the fine delicate leaves of which, when they first emerge from the ground, are the plague of farmers whose rows are at uneven distances, in crooked lines, and only to be distinguished by the growing plant. It would be a lasting benefit to many farmers to visit the grounds of some skilful market gardener and to observe the cultivator, with horse attached, working in narrow rows between delicate plants not yet to be readily seen, but which the workman is sure not to destroy, because every plant is in its proper place.

In ordinary planting it is important to put in plenty of seed, such a quantity, indeed, that the hoe may be used rather freely at first, leaving a sufficient number of plants to grow to maturity. True, it may look somewhat wasteful at first sight to cull out the plants while small to six or eight inches apart, but such are the demands of successful culture. Indeed, for coarser growing sorts of roots a wider distance apart in the rows will at the harvest give more weight per acre. The thinning process is the weak point in growing roots as commonly grown by the average farmer. Where two or more roots touch each other neither is worth harvesting, and with deep rooted plants, like carrots, having small tops while young, if the thinning be not done early it will probably not be performed at all, or be accomplished with so much damage to the remaining plants as to be of comparatively little advantage.

Of the different kinds of roots, the white turnips and sugar beets are best adapted to early winter feeding. Carrots are good at any season. Swedish turnips are better than the early varieties after midwinter, while for late use mangold wurzels are best of all. Parsnips may be left in the ground all winter; but not many of these should be grown unless to be sold, as the top sprouts very early in the spring, and soon thereafter the root is of little value for feeding. Unless a portion of the parship crop is stored in the cellar, where it can be got at during winter, there is apt to be an over supply in the spring, which we have never found to occur with any other root.—*American Cultivator.*

#### TAKE CARE OF THE MANURE.

Manure, like every other organic product, should be used when at its best. It improves up to a certain point, and then, if left to itself, will deteriorate. The orchardist who knows nothing about the laws that govern the ripening and decay of fruits, will certainly make many expensive mistakes. He will pick his strawberries, and especially his pears, too late, and if he markets them he will be the loser in time and expense of growing the crop. Manure, to give the best returns, needs to be treated as carefully as fruits. How far short of the maximum benefit do most farmers come in the treatment of their manure?

A ton of barnyard manure of the average sort contains not far from thirteen pounds of nitrogen, six and one-half pounds of phosphoric acid, and not far from fourteen pounds of potash. These

three substances are the ones of greatest fertilizing worth, and for them the manure is cared for and applied to the land. It is not said that the rest, and great bulk of the ton, is of no use, but the manure would be of no great value without these. Harris, in his Talks on Manure, says: "We draw out a ton of fresh manure and spread it on the land, in order to furnish the growing crops with twelve and three-quarter pounds of nitrogen, six and one-half pounds of phosphoric acid, and thirteen and one-half pounds of potash—less than thirty-three pounds in all!" He says we should try and make richer manure, because it costs no more to draw out and spread a ton of manure containing sixty pounds of nitrogen and the other essentials in like proportion.

In order to look into the subject of keeping manure, let us consider briefly the classic experiments in this line by Dr. Voelcker, chemist of the Royal Agricultural Society of England. He has carried on extended experiments in the keeping of manure in exposed heaps, under cover and spread over an exposed surface. In the exposed heap he found that fermentation was most rapid during the first period of the test, from November to April, but there was only a small amount of nitrogen dissipated as volatile ammonia. At the end of August nearly one-third of the total nitrogen had been lost. The first period was during winter, and the manure was in a rapid state of fermentation. But after this six months of "ripening," so to speak, it is difficult to keep the exposed manure without its sustaining great loss.

In the second series of experiments, the manure was treated in much the same manner as in the first, except that it was protected from rains, etc., by a cover. A hundred tons kept in this way would be reduced over half in weight in six months—far more than in an open field. The fermentation was more rapid, with a greater loss of nitrogen, there not being water enough to retain the carbonate. The addition of water would have increased the value of the dung at the close of the six months' fermentation.

In the third series of experiments, the manure—the same amount as in the other series—was spread over a yard, and in this it represented the state of the manure in many of our barnyards during the summer months. There was some loss during the winter months, but small compared with that during the succeeding summer. Of the 64.8 pounds of nitrogen, in November there were forty-six, in the following April and in August only twenty five pounds. Of the soluble mineral substances, the loss was from 154 pounds to eighty seven pounds in April, and to thirty-nine pounds in August.

Dr. Voelcker draws several conclusions from his experiments. Fresh barnyard manure contains but a small proportion of free ammonia. The drainings of manure heaps are very rich, and should be prevented from running away. Properly regulated, the fermentation of dung is not attended with much loss of fertilizing substances. Dung heaps should not be turned more frequently than necessary to regulate the fermentation. The leading loss in manure heaps is caused by washing rains. Well rotted manure is most affected by drenching rains. All the essential elements are preserved by keeping the manure under cover. With plenty of litter, fresh dung will not ferment rapidly under cover. The worst method of making manure is by keeping the animals in an open yard, since a large proportion of valuable fertilizing matters is wasted in a short time; and after a lapse of twelve months, at least two-thirds of the substance of the manure is wasted, and only one-third, inferior in quality to an equal weight of fresh dung, is left behind." It pays to guard the manure from such serious losses.—*Country Gentleman.*

#### HINTS FOR THE HOUSEHOLD.

**SEWICABLE** tidies are made of butchers' lines, hemmed at the sides and fringed at the ends; work in outline some quaint figure; work with marking cotton warranted not to fade, or with etching silk.

**BOSTON BROWN BREAD.**—One cupful of sweet milk, two cupfuls of sour milk, three cupfuls of corn meal, one cupful of flour, one cupful of molasses, one teaspoonful of salt, and three teaspoonfuls of soda. Steam or bake slowly three hours. This makes a good sized loaf.

An appetizing dish is made by boiling some macaroni till it is tender, then cut some pieces of cold boiled or fried ham and mix with the macaroni; melt a lump of butter in a saucepan, and put the ham and macaroni in it; add a little milk to moisten it. Send hot to the table.

**HARD-BOILED** eggs are good food for canaries, but the shells should not be put in the cage, as there is danger of the female birds learning to eat the shells of their own eggs. Cayenne pepper is a sort of tonic for canaries; it is a good plan to hang a red-pepper pod in the cage and let them help themselves to it.

Do not line your pretty willow baskets. If you wish to brighten it with a suggestion of colour, run a ribbon through the row of holes near the top, and tie in a bow at its sides. Cut a piece of pasteboard the exact size of the bottom of the basket, cover this with silesia, cashmere, or silk, and tack with a few stitches to the bottom of the basket.

**SEWICABLE** housekeepers' aprons are made by taking two long breadths of fine white cotton cloth. Cut one breadth in two parts, and put one of these on at each side, so that there will not be a seam in the front of the apron, make with a deep hem and a broad insertion of rick-rack, or of Hamburg, or of darned net. Tie with long and broad strings.

**HERE** is a pudding recipe for those who, like her, are trying to economize in the expenditure for the table.—One quart of flour, one-half pound of suet, chopped very fine, add a good pinch of salt, wet with water, roll out and spread a layer of any kind of fruit you please over it, roll it up, and put it in a cloth, leaving room for the pudding to swell. Steam for an hour and a half.

If you are so fortunate as to have velvet or even satin-lined cases for teaspoons and forks, do not read this. To protect the silver in common use from scratching, take a strip of the heaviest Canton flannel; have it wide enough so that after laying the forks or spoons on it, the cloth can be folded over them; stitch a band of the flannel to the upper part of it and fasten, leaving places or loops through which to slip the silver.

**NOVEL** and strikingly elegant piano and table scarfs are made of plush, with figures applied in odd and out of the way designs. These figures may be purchased at art stores; they are cut from Turkish scarfs or shawls, and are to be pasted to the plush, and then after being outlined with gilt thread, are to be used as a sort of centre for long stitches in all coloured embroidery silks. Much ingenuity and expression of individual taste may be exercised in the embroidery.

A **DELICIOUS** cream cake to be eaten while fresh is made of half a pound of flour, three ounces of butter, one teaspoonful of baking powder, two heaping tablespoonfuls of sugar, or a small teaspoonful, a pinch of salt, a teaspoonful of grated lemon peel, a cupful of cream that is not entirely sweet, and one egg. Beat the butter to a cream, and mix the flour with it, then add the other ingredients, mix thoroughly, and bake in a moderate oven. This is especially nice with fresh fruit.

## GARDEN AND ORCHARD.

## WATERING PLANTS.

We publish the following from the London Mark Lane *Express*, not because it is new, but to show that culturists, the world over, are agreed upon the principles that should govern in watering trees and plants:

"Daily morning sprinkling under the influence of the sun, which is increasing in power every moment, is worse than useless, as the rapid evaporation that follows lowers the temperature of the ground so much as to be positively injurious, and the very fact that the surface dries so quickly proves to demonstration that the moisture is not appropriated by the plants or crops, but by the atmosphere. This is not exactly what is wanted; in fact is the exact opposite, as it is for the plants and not the air, that the moisture is intended. Watering to be effectual with out-door crops should be done in the evening. There is little or no evaporation then, and consequently the crops have at least several hours to appropriate the moisture that is given, and become refreshed for the work of the following day.

"A sound rule in the watering of plants and crops is to wait until they require artificial support, and then to give it copiously; It is of no use applying water unless sufficient is given to penetrate to the roots of the plants, and even below them. Numbers of persons are under the impression that they give sufficient for this when in fact the water may not penetrate half an inch; it runs off the surface instead of percolating through it. This is sure to be the case where daily sprinklings are indulged in on the principle of giving every part of the garden a little. It is far better to divide the garden into sections and give each in turn an adequate supply, even if the whole be not saturated more than once a week. With the object of assisting the water to pass through the dry surface it is often necessary to break it up slightly with a fork, and it is always desirable to run the hoe through the surface on the following morning, as soon as it is dry enough to be worked freely, as this will to a very important extent arrest evaporation, and assist materially in the retention of both warmth and moisture in the ground.

"Our remarks apply to plants and crops that are established and not those that are immediately planted, which often need watering daily and sprinkling frequently to prevent withering; but even in the case of these artificial shade, when it can be given, will be far better than the incessant use of the water-pot. Beds in which seeds are sown can seldom be watered beneficially. If sowing must be done in dry weather, the proper method of supplying the requisite amount of moisture is to flood the drills before the seed is scattered in them, and shade the surface until the seedlings appear. For instance, the present time is the time for sowing peas, for the latest crops; coleworts, for occupying vacant ground after the early crops are removed; and cauliflowers and lettuce for autumn use. Let the drills be first saturated, and the seed will germinate far better than if it is sown first and watered afterwards. This is a simple item of information not commonly found in books, yet worth remembering.

"Roses, deciduous and evergreen shrubs, and also fruit trees that were planted late in the spring, will in dry soils, need watering now. Let it be given liberally, as much as can be poured into the soil, and in the morning dust over the surface, or it will shrink and crack and much of the water escape into the air again. Trees and plants inserted close to walls must have special attention, as the soil dries there more quickly than in the open. Mulching is an invaluable adjunct to wat-

oring, and two or three inches of cocoa fibre refuse, which is very cheap, spread on the soil, has a neat appearance, and is an efficient conservatory of moisture in the earth."

## WILD GARDENS.

A growing and commendable feature of ornamentation is the constantly increasing introduction of wild gardens on private grounds. It is always praiseworthy to make the most of the plants of one's own country, and especially those of his State or neighbourhood. The wild garden receives more attention in Europe than in America, although it seems to be constantly growing in favour in this country. To the farmer the value of a wild garden lies chiefly in the ease with which it is cared for, and in the adaptability to that purpose of any waste or wet piece of ground. A wild garden is necessarily a rustic affair, where vacancies and irregularities do not mar its general effect. It needs little care other than to keep down some of the more troublesome weeds, and to prevent the stronger plants from crowding out the weaker ones. The previous vegetation should be thoroughly subdued, however, before even a wild garden is attempted. If the land is low it will probably be occupied by a strong sod of sedges or grasses which must be entirely eradicated before one can expect pleasant results from transplanted species. The next important problem is to secure plants which will thrive in the selected location. This is best done by removing plants from places which have a similar amount of moisture, and the same exposure to winds and suns as has the spot selected. This is a pleasant work for most children. Every child should early learn to love and observe some class of natural objects, whether plants, birds or insects it matters little.

The familiarity with living objects is a great educator. If properly pursued one gains a power of discrimination and observation from a study of plants or birds or insects which he can get in no other avocation. The detection of wild flowers for a garden is one of the very best means of inducing this desirable liking for nature. Were this made the sole object a wild garden might be made a source of great profit to children and to home. How to amuse and busy the children when father and mother are not at leisure is a problem which may often find a solution here. Aside from this educational and salutary aspect, however, a wild garden may be made a charming, attractive place. Most or all of the plants will be perennials, and there will be no trouble in keeping good roots of most of them, especially if lightly mulched each autumn. Of course, a wild garden should not be in a conspicuous place. All rough and rustic features of the premises should be hidden from the road or front yard. This will especially be the case if the wild garden is built up largely with rocks.

## APPLE CULTURE.

Prescott Williams, of Williamsburg, Mass., who has given a quarter of a century to apple culture and now has twenty acres in the fruit—about 1,400 trees in all—had one of the largest crops last year the orchards ever produced. It reached about 800 barrels. These trees are expected to reach a bearing capacity of 2,000 barrels. In the next ten years the income from the twenty acres is estimated at \$2,000 a year. The land is like all that adjoining, and Mr. Williams considers it all good for apple culture. The peculiarity of his method is that he digs a hole five feet square, in which the young tree is set, and it is then filled around with good and well made compost. The orchards are never ploughed, for he has found the

little rootlets come to the surface for nourishment. The windfalls and decayed fruit are all removed. The tree is cut to grow low, with wide-spreading branches, thus avoiding much of the danger from high winds. Mr. Williams has this year observed for the first time a difference in the shape of the Baldwin trees that bear in the odd and the even year. The difference is quite noticeable when it is once pointed out. The even year has long and slender branches reaching out in all directions, while the odd tree is more scrubby, the branches growing closer together on the top. These facts may be of much importance to those who wish to graft the Baldwin. Like many other fruit-raisers, Mr. Williams has come to the conclusion, as a result of his long experience, that only a few varieties of both apples and pears are profitable to raise. He would not set more than three varieties of pears, and, if he were to set an orchard of a thousand apple trees, he says he would set only the Baldwin and the Lady's Sweeting. The latter is a winter sweet, light red in colour, very handsome, and a profuse bearer.

## RAISING FOREST-TREE SEEDLINGS.

D. W. Beadle, secretary of the Ontario Fruit Growers' Association, gives the following directions how farmers may grow forest trees from seed, in which he doubtless speaks from his own experience:—Now that the planting of timber-belts, both for timber and protection, is likely to prove desirable, these directions may be generally useful. Prepare a small piece of ground by enriching and pulverizing, and plant the seeds as soon as may be after they are perfectly ripe. The soft maples and the elms ripen their seeds in June, and by sowing them at once, strong plants may be had before winter. They should be covered lightly, or with only enough fine earth to keep them moist. The sugar maple ripens its seed late in autumn, as well as the ash-leaved maple. They may be sown in autumn, or kept in moist earth for sowing in spring. If kept in papers, they will become so dry as to be likely to fail of germinating. The large seeds of the butternut, chestnut and walnut, ripen late in autumn, and they may be planted as soon as gathered; or they may be mixed with soil to keep them moist and prevent moulding, spread in a thin layer, and covered with soda, for early spring planting. It is not necessary to expose them to frost, but to keep them from becoming dry. All these trees may be grown in nursery rows till large enough to set out in belts.

## AMPELOPSIS OR VIRGINIA CREEPER.

The common Virginia creeper, or as it is often called, "woodbine" and "five-leaved ivy," has long been held in esteem as one of the most desirable of hardy climbers. It is easily grown, and very soon covers a wall or other object with a dense mass of green. One of the most attractive features of the plant is its habit of assuming rich tints of red and orange in the autumn. The Virginia creeper is a common plant in woods in the northern United States. It is the only native woody climber which has five-parted leaves. It can readily be distinguished from the poison ivy, which has wider, three-parted leaves. The creeper is a near botanical relative of the grapes, its flowers and fruit having almost the same structure as they.

Another desirable climber, introduced some nine or ten years ago from Japan, is that known as Veitch's *Ampelopsis* (*Ampelopsis Veitchii*). In many respects this species is superior to the native Virginia creeper. Its most marked superiority is the readiness and tenacity with which it clings to a wall. In taking plants of the Virginia creeper

one should be careful to select these specimens which cling to trees or rocks. Some plants do not cling, and cannot be made to do so. Even the strongest-tendrilled specimens are apt to be torn from their support by side currents of wind, or a side twist. This is never possible with the Japanese plant, which has shorter tendrils holding the plant very close to its support. The autumn colouring of the Japanese species is a rich bronze, but it is not as showy as the native. Its leaves are thick, palmate, three-lobed and toothed. It is perfectly hardy in its latitude, where it is sold by all dealers.—*American Cultivator*.

#### A FARMER'S HOME DUTY.

If there is any one thing more than another that farmers need urging to do it is to give more attention to the garden. Far too many farmers plant out a small garden, and then neglect to properly care for the little they do plant, so that the village mechanic, with but a small house and lot, will have more vegetables for his family than the farmer. This ought not to be, for the farmer, having plenty of land, can select a garden where the soil is of the right character, and plenty of manure, with all kinds of farm implements to prepare the soil and cultivate the crops; in fact, he has every advantage, while the mechanic has few implements and no choice of land; he must take what is in the rear of his house, however poor and stony it may be; his strong desire for a good garden stimulates him to action, he picks off the stones, manures heavily, and cultivates continually, until at last he brings his land into a condition to produce wonderful crops.—*Farm, Field, and Fireside*.

#### PEAS IN THE FALL.

The way to raise the finest quality of peas is, after the first sowing, to plant them deep and mulch them, so that the soil they root in is always cool and moist. In the careless manner in which peas are frequently cultivated they have little flavour and delicacy. It is so with raising what is called the snap-short beans. They are seldom planted deep enough, and as a consequence have no more flavour than a piece of India-rubber and are about as tough; but the beans planted in September, and in due time are for sale in our markets, are really delicious in flavour, and fairly melt in the mouth. This is the result of cool soil. But were these beans planted three or four inches deep, as we have more than once suggested, throughout the season, and mulched in the hottest portion of it, we could have, as with the peas, these vegetables at all times up to November in perfection.

#### THE RASPBERRY CROP.

Raspberry plants have been considerably troubled by insects this year, the foliage of the black raspberry plants being almost entirely eaten off from some patches before the berries ripened. Of the red kinds the Reliance and Cuthbert seem less liable to insect injury than the Turner. This partial defoliation of the plants serves to decrease the size of the berries, and of course diminishes the crop that much. The raspberry crop of any kind was not above an average, and prices held up well to the last. It is quite probable that the area given to this fruit will be enlarged slowly during the next few years.

#### EARLY BEARING PEAR TREES.

Some inquiry is made in the journals for those varieties of the pear which come into bearing while young. The first, doubtless, to be placed on the list, as well as for other good qualities, is the Bartlett, which is pretty sure to bear in three

or four years from the graft or bud, if well taken care of. The Howell is nearly equal to it for early bearing, and sometimes outdoes it in heavy crops. The Winter Nelis often bears when quite young. Among the autumn sorts are Onondaga, Belle Lucrative, and Bourré d'Amanlis; and the summer varieties, Washington, Giffard, and Doyenné d'Été. The Julienne, a pear which succeeds well in the more southern regions of the country, but is poor as far north as New York, exceeds any other variety, so far as we know, in bearing while the trees are quite young, the yellow pears often being seen hanging from the bending branches in the common nursery row.

#### THE SEASON FOR SEED GATHERING.

Now is the time to begin to gather seeds of trees and herbaceous plants. It is desirable to select seeds from plants while they are in a thrifty condition, before they begin to be exhausted from over flowering, and produce smaller flowers and weaker seeds. It is not necessary to wait until the seed pods are ripe and bursted before seeds are secured. The seeds are apt to be lost if gathering is delayed too long. When the seed-pod is fully matured and begins to assume a brown or yellow colour, it should be picked and laid in a dry place. If a considerable portion of the stem is taken with the pod, the seeds will usually mature, even if quite green. Seeds of perennial plants should be planted out this summer as soon as they are dried and the pod bursts. Most of them will then be ready for flowering next year. Seeds of native plants found in the woods and fields can be sown as soon as collected, whether perennials or annuals. Many of the beautiful natives are easily grown from seeds, especially those whose seeds are large.—*American Cultivator*.

#### ROSES FROM CUTTINGS.

European horticulturists sometimes adopt this mode of planting rose cuttings so as to root with more certainty. They bend the shoot and insert both ends into the ground. The cutting are about ten inches long, and are bent over a stick for the reception of the ends of the hoot. The roots form only at the lower end of the shoot, but the other end, being buried, prevents evaporation and drying up. A correspondent of the *London Garden* says that he has tried this along with the old mode, and that, while the weaker cuttings of the latter have shown symptoms of drying and failure, all the former have grown vigorously.

#### MANURE FRUIT TREES.

In fruit growing, remember that fruits are like grain and vegetable crops in this, that they must have manure too keep up the fertility. Unlike vegetables and grain, however, their feeding roots are mostly at the surface. It is best, therefore, annually to top-dress fruit trees. If manure cannot be had, any fresh earth from ditches or roadsides, spread a half inch or so under the trees, will have a wonderful effect.—*Western Agriculturist*.

#### PLANTING FRUIT TREES.

In planting fruit trees, aim to have them so that the hot dry sun will not have full effect on the ground about the roots. The great heat in this way injures the trees. Many who have trees in gardens, plant raspberries under them. The partial shade seems to be good for the raspberries and helps the trees. Blackberries would no doubt do well in the same situation; and strawberries, it is well known, do not do badly grown in this way.—*Gardener's Monthly*.

#### CREAM.

LADIES, a piece of advice—never send your letters by male.

Should music be sold by the chord? Drum music might be sold by the pound.

"A FAIR court record," remarked a coquette, as she wrote the name of her sixteenth rejected lover in her diary.

A PITTSBURG female physician says:—"Woman can understand woman." All we've got to say is, if she can, she's mighty smart.

"WHAT is true bravery?" asks a New York paper. It is going to sleep while your wife sits up in bed to listen for burglars.

Young man, keep off the grass. It is said that even a moderate indulgence in lawn tennis creates an unquenchable and inhuman appetite for ice cream.

DIALOGUE in a Saginaw, Mich., school:—Teacher—"How many races are there?" Pupil—"Three; the spring meeting, midsummer speeding and fall fairs."

"HE who helps himself helps others," as Fogg remarked as he transferred the remaining biscuit to his own plate. The "others" couldn't see it in the same light as Fogg did.

A WOMAN in Akron, O., who had been married four times, was asked:—"When are you going to be married again?" "Never! I shall forever remain single. I hate a man," was her reply.

The younger lady—"Oh, aunty, did you observe what a badly made dress Mrs. Brown had on?" Aunt (who couldn't bear "that woman")—"Ah, that's how it was it fitted her so well, dear—yes?"

ONLY the leaf of a rosebud,  
That fell to the ball-room floor,  
Fell from the tinted clusters  
Of the big bouquet she wore.

Quickly he stooped and seized it,  
"Tis the leaf of a rose," said he.  
"Tinted with summer's blushes  
And dearer than gold to me.

"Lovely and fragrant petal,  
Some sweet summer night, who knows,  
I may have a chance to tell her  
I treasured the leaf of the rose."

But when to his lips he pressed it,  
He muttered in accents wroth,  
"The blamed thing is artificial  
And made out of cotton cloth!

"No, sir," said the gentleman, "I am not brutal in disposition and tastes; but I hate hypocrisy in man or beast, and if two dogs have a rooted antipathy for each other, I don't like to see 'em conceal it.

"Why do good little children go to heaven when they die?" asked the teacher. "Because," answered the bright boy at the head of the class, "because it is unsafe to trust children in a place where there's a fire."

"Did that lady take umbrage?" said the proprietor of a Harlem store to his clerk, who had just had a wordy dispute with a customer. "Oh, no, she took ten yards of Turkey red calico, and wanted buttons to match."

"THERE'S one thing connected with your table," said a drummer to a western landlord, "that is not surpassed by even the best hotels in Chicago." "Yes," replied the pleased landlord, "and what is that?" "The salt."

Host (really in agony about his polished inlaid floor):—"Hadn't you better come on the carpet, old fellow? I'm so afraid you might slip, you know." Guest (with a wooden leg):—"Oh, it's all right, old fellow—thanks! There's a nail in the end, you know."

## HORSES AND CATTLE.

### CARE OF BROOD MARES WHILE IN FOAL.

To bestow some care in the selection of the food for mares with foal will be worth the farmer's while. There can be no doubt that the chance of obtaining a good foal is in a very high degree increased by the certainty that the food of the mother, during her pregnancy, has been all that it ought to be in point of quality and quantity. It appears to be established that any, even very temporary, failure in the quality or quantity of the food of the mother, at any period of her pregnancy, during the many complicated changes incident to the body of the foal in its development, proves the source of some one or another defect in the organization of the foal throughout life, and, therefore, perhaps of some serious vice in its permanent constitution. Too much care, therefore, cannot be bestowed to avert any failure of this kind that may be attended with a consequence so serious.

The materials out of which the body of the foal is constructed are altogether drawn from the blood of the mare. The food therefore allowed to the mare during pregnancy must be sufficient, not only to maintain her blood in a state adequate to supply the ordinary wants of her own system, but also to bear the additional drain put upon it for the development of the various textures entering into the structural composition of the offspring which she carries in her womb.

To determine theoretically what addition should be made to the ordinary food of the mother, in order to enable her to bring the work of reproduction to a perfectly successful termination, it would be necessary to institute a comparison between the quantity and kind of material required for the repair of the periodical loss in the substance of the mother's body, under the amount of work obtained from her, with the quantity and kind of material adequate at each particular type of pregnancy, to produce the development of the foetus in the like periods. It cannot be assumed in theory that a mere increase of the ordinary kind of food will suffice to supply all that the foetal foal requires for its perfect development, for that assumption would imply that the textures in the mother which are undergoing waste by labour must, throughout pregnancy, be the same, or of the same composition, as those which are, at the same period acquiring development in her offspring within the womb.

Physiological chemistry has not yet reduced to an exact measure, fit to be expressed in figures, the precise additions to be made to the food of such an animal as the mare during the successive stages of her pregnancy, in order to insure the perfect development of the foal. Nevertheless, there are some considerations that may not be without their use towards the attainment of this object. It is, however, necessary to remark that a strict attention to the food of breeding mares should not supersede a regard to the other circumstances that are conceived to exert an influence in the production of what is called a hit, or signal instance of success, in obtaining a perfect foal, and the farmer should pay attention to the kind of mare he is to breed from, as well as to the merits of the stallion of which he makes choice.

The pregnancy of the mare lasts for eleven months, and during all this period there is a drain on the mother to supply the materials necessary for the development of the frame of the foal. In the early stage of her pregnancy, the drain is, of course very small, but it grows greater as the pregnancy advances. How mysterious soever may be the connection between the blood of the foetus in the placenta, it is certain that the

development of the bodily frame of the foal takes place exclusively at the expense of the blood of the mother. Thus there is no room for doubt that the blood of the mother during pregnancy, when proper food is supplied, undergoes changes of a kind to fit it to afford, at each succeeding stage, such materials as the exigencies of development in the foetus at that stage requires. The only well-marked change that has been observed on the blood in mammals during pregnancy is an increase in the proportion of fibrine. This has long been known, as respects the human race, by the fact that blood drawn from a vein during pregnancy uniformly shows the same buffy coat, composed of fibrine, which is present in blood drawn during acute inflammation. The presence of fibrine in large proportion in the blood during pregnancy implies the simultaneous accession of sulphur and phosphorus in corresponding proportion. Though it is by no means a settled point in physiology, we may in the meantime take it for granted that a larger amount of food affording fibrine, and by consequence, sulphur and phosphorus, is required by the brooding mare than by the same mare when merely employed in ordinary farm or other work. The distinction between vegetable fibrine and vegetable albumen cannot always be drawn in the analysis of the grasses and other articles of food fit for the animals of the farm. This distinction is, however, very manifest in the seeds of the cerealia or grain-grasses; thus the gluten, as it is termed, of wheat consists essentially of fibrine. All the ordinary prized forage grasses, and the artificial grasses, contain, most probably, in sufficient proportion, mineral simples required for the development of the foetus.—*Thoroughbred Stock Journal.*

### POLLED ANGUS OR ABERDEEN CATTLE.

An English journal states that formerly, both in Angus and Aberdeen, the breed embraced a variety of colours as well as a difference in size. Black, with some white spots on the underline, was the prevailing colour. Some were brindled—dark, red and black stripes alternately, others were red, others brown, and a few what Youatt called "silvered coloured yellow." But since systematic improvement was commenced in thorough earnest, all shades of colour except black have been at a discount. It is not easy, however, to wholly obliterate features that have at any time been characteristic of a race of stock, and even in the "best granulated families" a "reversion" to one or other of these unpopular shades of colour still occasionally displays itself. A shade of brown is not rejected, and not a few of the best looking and highly priced animals of recent years have had some white about the underline, chiefly around the udder. Red or brindled, however, are wholly inadmissible; and when animals of these shades do appear they are not bred from. In most herds one or two red calves have appeared, but a brindle calf is now rarely dropped. But while these colours are unpopular, it should be remembered that they do not denote impurity. They simply indicate that an ancient characteristic of the breed, which modern fancy has doomed to extinction, has, in the mysterious workings of nature, been able to temporarily reassert itself.

From the earliest accounts of the Angus and Aberdeen polls, it would seem that they were even then noted for symmetry of form, and that most of them were small in size. They were generally so small in fact, that oxen of the breed were not considered suitable for the ordinary light farm work of a hundred years ago. It would seem also that they have always been thick, low-set, round, very compact, fine in the bone, with soft hair, mellow skin, rich cover of flesh, fine

head, hardy constitution, and great aptitude to fatten, their beef being of the finest quality, and beautifully mixed. The polled Aberdeen or Angus cattle of to-day are just magnificent animals of the same time. Most of the good points they formally possessed have been still further developed and brought to a higher condition of usefulness; while some defects that characterized the breed a hundred years ago have been wholly or partially removed. There has been a very great improvement in size during the present century. They are now large cattle—scarcely inferior, indeed, in weight to any other variety in the country. At a casual glance they seem decidedly smaller than average Shorthorns; but on closer examination or on the "scales" the difference is generally found to be much less than had at first been supposed, and often disappears altogether. As a rule, polled animals are lower set or thicker and more compact than average Shorthorns—the latter being more "pointy" and longer in the legs.—*Herd and Farm.*

### CARE OF FARM HORSES.

Successful farming is next to impossible with the use of inferior horses. Even when the best animals are secured skill and care are required to maintain them in proper working condition. Inefficient team help increases the cost of almost every farm operation, and makes high-priced labour still more expensive by diminishing its effectiveness. With careful but liberal feeding, and thorough grooming, a good team of horses should thrive even after performing a good day's work every working day in the year. In some avocations men work every day through the year with the exception of Sundays, and, though this may not be the best practice for men and women, yet it is because of a finer nervous organization, which is not presumed to be an impediment in case of the average work horse. Muscular weariness alone is relieved by regular rest at night, and also that of one day in seven set apart for that wise purpose. In the care of the horse, if the grooming be faithfully performed, it goes far towards resting the tired muscles after a hard day's work. We have in mind a most careful horse owner, who is accustomed every night to thoroughly rub and brush the wearied muscles of his team of horses. From the fresh and lively appearance of his horses and their disposition to work, we fancy this grooming is quite as important a factor in the well-being of his team as the grain which is fed to them. These horses have not been fed heavily, yet, from spring until fall, working every day excepting Sundays, the team continues to improve.

The mistake commonly made by farmers is in giving their horses too little grain in winter, or when not working, and then overloading the animals' stomachs when heavy work has to be accomplished. Grain thus fed not only fails to strengthen but also absolutely weakens. It is really a tax on the digestive organs, to which they are not accustomed, and are therefore unable to bear. Every person knows, or lucky indeed is he who does not, the sudden weakness which almost invariably accompanies any derangement of the digestive organs. The same is true in case of a horse, and such a derangement generally follows any sudden increase in food just as hard work begins. In fact, sudden changes of food in kind as well as in amount should as far as possible be avoided.

A certain but moderate proportion of green food should form part of the daily ration for horses in winter as well as summer. At no time, however, should a working team be allowed to fill itself with grass to the exclusion of more substantial food. One level of carrots daily through

the winter is better with two feeds of grain, than the feeding exclusively of grain rations, morning, noon and night, without the roots. In a limited extent as an auxiliary feed carrots are worth as much for horses as oats, and more than corn. This latter grain, so well adapted for nearly every other purpose, is not well adapted for horse feeding. Some horses can consume corn without bad results, and it is a good sign for a horse that can, since it shows his digestive apparatus is in excellent order. But, as a rule, a horse corn fed will not be able to do as much work as if given oats. When the corn does not cause colic, it may be given before hard work begins, but after that the oats are worth as much per bushel as the corn, though it takes only thirty-two pounds of oats to make a bushel and fifty-eight or sixty of corn. In hot weather the oil and starch in the corn are worse than wasted. The poor animal is hot enough already, and he needs strengthening not heating food. We are aware that many heavy, slow-moving city dray and truck horses are feed on a large proportion of meal, yet this does not change our opinion of its comparative value.—*American Cultivator.*

#### JERSEYS IN ENGLAND AND AMERICA.

The *London Agricultural Gazette* has the following remarks:—As present returns go, the breeders of fashionable Jerseys are (both in the United States and Great Britain) taking the lead from other breeds. It is not necessary to reprint the extraordinary rates made in America for special animals. So long as an American "boom" is on, nothing can rival the object of it. But recent rates in England are not controlled by American buyers, who, for most varieties, have plenty on sale at home. Yet Lord Braybrooke's Jerseys average more than Mr. Tracey's Shorthorns, and it is pretty certain that it costs more to bring the latter into the ring than it did the former. The real inference seems to us to be that any class has rallied from the depression quicker than the farmers have—i.e., that dwellers in villas (who are Jersey buyers) are in better condition to pay for their fancies than are farmers who would be the proper competitors for middle-class Shorthorns. It really seems, however, as if English breeders who wish to obtain "improved Jerseys"—i.e., those which give increased quantities of butter, not those which conform more closely to an arbitrary standard of colour—will have to go, not to the island, but to America, for new blood. By common consent, the island is well-nigh stripped of fine specimens. New Jersey seems to have more of the Channel Island cattle than the Jersey, which may in distinction be called "old."

#### FARM HORSES.

The breeding of farm horses, or "horses-of-all-work," as they have for a long time been called in this country, constituted a large part of the business of those who in the earlier years of agricultural operations, devoted themselves to the rearing and development of this animal. In the colonial days many well-bred and valuable horses were imported both from England and from the continent of Europe. The English horses were valued as much for their power and vigour as for their blood.

The early French settlers brought into Canada a great number of hardy, medium-sized animals capable of performing a great amount of labour and of enduring the hard fare and cold climate of that country.

These strains of blood soon commingled and created the foundation of that great mass of horses now counted by millions and which, while

varying in size, according to the locality in which they are bred and fed, constitute that equine family known as the American horse. The addition to these strains of blood of the heavier horses of Scotland and Normandy has added to the size of these animals. And, while we have poured into this channel the warm, courageous, enduring blood of the Thoroughbred and the coolness and patience of the Norman, and the solid resoluteness of the Clydesdale and the style of the Cleveland Bay, we have created a horse which in his perfection combines all these qualities and is one of the most useful animals in the world.

Good breeding and good care are both necessary. A neglected colt matures slowly and seldom forms that attachment to man which develops his good qualities as he comes to his work. While we breed, therefore, with care, we should feed and treat with care and kindness also, if we would secure those characteristics which make the American farm horse valuable.—*Hon. Geo. B. Loring, U. S. Com. of Agriculture.*

#### SHORTHORNS AND THEIR GRADES.

With many farmers the desire is to possess larger cattle than are the Jerseys and Guernseys, so that when the cows have outgrown their usefulness as dairy animals, or have proved themselves unprofitable for the same purposes, they can be turned into the best account as beef, making heavy weights and correspondingly heavy gross receipts from the butcher. It must be remembered, however, that it is impossible to find all the excellencies of all breeds incorporated in any one breed, and that large size and extra dairy qualities are seldom found in cattle. It is true that we occasionally find in the shorthorn superior dairy excellence; yet such is the noteworthy exception and by no means the rule, and those who wish to secure large size and extra weights in cattle must be willing to sacrifice the extremes of good dairy qualities to secure what they are most desirous of securing. A sort of a compromise can be had, however, by breeding a first-class shorthorn bull to the best dairy cows in the herd of common ones, the result being, almost invariably, extra fine half-blood or grade heifers, which possess valuable dairy qualities and have good size. Of course, only the heifer calves from such materials should be kept and reared, the bull calves being sold to the butchers, or to some of the neighbours who either cannot afford or do not care to invest in the purchase or use of a thoroughbred bull. Where the farms are large and good, and where there is plenty of grass and other food, the shorthorns will please many, their size, where size is one of the principal objects desired, being decidedly in their favour. For nearly all purposes, unless, perhaps, speculative ones, the grades will give better satisfaction to the average farmer than will the thoroughbred ones, while having the additional virtue, where cash is not over-plentiful, of costing comparatively little cash outlay. Thoroughbred bull calves, of almost all breeds, can now be had at very low prices, considering the quality, and there should be a greater demand among farmers than there is now. No enterprising, progressive farmer should be without one, and he should not be satisfied to breed to a common half-blood bull, "because it don't cost anything, you know."

#### RAISE MORE COLTS.

Colts are not expensive to raise if good pastures are convenient, nor are they troublesome. Every farmer should make a point of breeding his mares to the best stallions that can be procured, and it

matters not whether the colt comes in the spring or in the fall, the balance sheet will be in his favour when his usefulness begins. But little grain is required during the time the colt is useless, and is only a portion of the usual care necessary for horses is bestowed on it, he will thrive and do well. One of the great obstacles to overcome with colts is the inducement to put them to early service. This custom has done much to destroy the lasting qualities of the colt after maturity, for the early training to work is detrimental to growth and proper formation. The colt should be trained (not worked, but handled) early, however, even from birth, for he may thus be taught a great many habits gradually and easily without difficulty, and in so doing the colts learn confidence and reliance. The mere breaking of the colt to work is not all that pertains to his education, for this value rests as much on his temper and disposition as upon his size, shape and power. It is the farmer's duty in the matter to breed from the best sires, push the growth of the colt, educate him by kindness, and the result will be a handsome profit.

#### BREAKING YOUNG HEIFERS.

The way to break in young heifers to milk which are wild and given to kicking is being discussed in some of our exchanges and different methods recommended. One writer recommends a rope or strap tightly sirched about the belly in front of the udder. Another objects to this as a barbarous and painful practice at variance with kind handling; that it retards the flow of milk and does not hinder kicking. He recommends putting a rope round the ankle of the hind foot next the milker and fastening the free end to a post or ring in the floor, and the rope drawn back so that the toe only just touches the floor, when, if the head is securely fastened, she can be milked without danger from kicking. We have seldom had any trouble about milking a young heifer if we had the opportunity of handling her freely before calving. She can usually become so accustomed to have her udder handled that she will permit herself to be milked, if treated gently and given a good to take up her attention. But some are so nervous that they become frightened if one attempts to milk them, and will kick through fear and not malice. In such cases our method is to lift the fore foot on the milking side, bend the forearm back upon the arm and slip over it a loop of rope or strap that will just slip over both and hold them in place. If slipped forward next to the hoof it cannot slip off, and standing on three legs she cannot kick. Two or three milkings with gentle treatment have, with us, always been effectual. If she has a relapse of kicking one or two more applications of the strap effect a cure. This method cannot inflict pain or suffering, and we have never known a subject of it to receive any injury.—*Farmers' Review.*

#### A NEW USE FOR ELECTRICITY.

A new cure has been discovered for balking and cribbing horses by the application of electricity. A gentleman of Baltimore county, Maryland, who has a horse subject to balking, placed an electric battery, with an induction coil, in his buggy and ran the wires to the horse's bit and crupper and as soon as the horse came to a standstill the current was turned on, and after the horse was relieved of his shock he proceeded without showing any disposition whatever to balk. The same application was successfully made to a horse which indulged in cribbing, whereof he was soon cured through the unpleasantness of the electric shock.—*Towsontown Herald.*



## SHEEP AND SWINE.

### SHEARING LAMBS.

The economy, or even the admissibility, of shearing lambs in the early fall is a feature that can be considered only in such portions of the country as have the advantage of mild autumn weather and the delayed approach of winter. In portions of the Pacific slope and southern Texas, where biennial shearings are practised to a considerable extent, lambs have been frequently sheared. The comfort of early-dropped lambs, in the more northerly latitude, would undoubtedly be increased by the removal of their fleeces before the advent of extremely hot weather. It is fair to assume that increased thrift would follow. In fact, to see a March lamb with two or more inches of wool, panting beneath a July sun, is not calculated to encourage hopes of rapid gain while such conditions continue. It seems worth the consideration of flock-owners to determine whether or not they will be profited by summer shearing of all lambs over three months old. The wool would pay the expense incurred, and it may be that the increased thrift resulting from consequent comfort would prove a handsome profit. This is the conclusion of a writer who gave, in the *Country Gentleman*, his experience with a flock of graded Southdown-Cotswolds:

"Having the lambs to come very early in the spring, their wool grows to be three or four inches long before shearing time, and having noticed by leaving this on that it grew to be very long during the summer months, and they would lie in the shade and pant on account of the excess of wool, while the dams were out grazing, I came to the conclusion to try an experiment by shearing some and leaving some unshorn, to see if there would be any difference when spring came again. I sheared two and left the rest. The result was simply wonderful. Those two I sheared came up in the fall and looked like my yearlings. They were fat, and while their wool was not quite so long as the rest, it was much thicker, and seemed to grow much faster during the winter than those I did not shear. They stood the winter better, and by shearing time they were larger and better every way. This experiment induced me to try again by shearing one-half of my flock of lambs, and the result was about the same. The next spring I sheared all but two, they being thoroughbred out of Canada ewes, and thinking that by leaving the wool on I could sell them better in the fall for breeders, but found this to be a mistake, for in the fall I showed these two at the fair, and also some of those that I had sheared, with some that had just been brought from Canada to show (they not being sheared either), and the result was that those that had been sheared were given the first premium."

### MANAGEMENT OF YOUNG SWINE.

A correspondent of *The Cultivator and Country Gentleman* says: "There is still much error among farmers in the management of pigs; and this error I find prevails most with the best breeds, being petted and overfed with the rich food in which the fat-forming elements prevail. Corn constitutes too often the principal food, which disposes to fat at the expense of material for building up the frame. This last is the important point—to make all the bone and muscle possible, securing a stout, large frame that will sustain without difficulty the load of fat which all good breeds readily put on. This secured, a greater degree of health and vigour will result, with more wholesome fat and a better proportion of sweeter and more wholesome flesh. The profit will also be greater on the food than were a fat-forming

ration, like corn, is made the sole, or even the principal food. During the fattening period corn is better disposed of by the more vigorous system and a greater amount is consumed. It is only preparing the animal in the best way to do the best, adapting the food to the end.

"The food must be largely of a nitrogenous character. Fortunately we may have an abundance of it and of considerable variety. Skimmed milk stands, perhaps, at the head to start the young pig, and may be continued with advantage to the end. My experience for many years has shown that the pea is the best grain for promoting growth of bone and muscle from the start and continued with the corn through the fattening period. It used to be a common practice here to grow peas for this purpose, usually some oats being grown with them. Heavy crops were grown in this way, and made a cheap and suitable food in connection with milk and grass. In a dry time when the grass was short, occasional cuttings of clover and other green food were given. The hogs never were confined to the pen during the summer, but allowed a free range of pasture for exercise and fresh air, and the result was a large, well-developed frame and vigorous health, fitting them perfectly for the fattening period. Finer and better fatted animals were not easy to find, bearing well on their large, stout frame all the fat that could be put upon it.

"Contrast this with what we too often see—the young pig shut up in a dark, close pen, drenched with filth, and fed almost exclusively on corn, too feeble to bear the unwholesome fat it makes under such circumstances, failing to attain the size and weight it would under more favourable conditions. The hog should be treated in a rational way, not like the filthy animal he is held to be. By nature he is disposed to be more cleanly than we give him credit for. If he has the bad habit of wallowing in the mire, he has the desire of securing coolness by it, which his hot nature requires."

### FALL OR WINTER FEEDING.

An Iowa exchange calls attention to the fact that many farmers in that region will give up feeding spring pigs in the winter for the next spring market and fatten in the fall for early winter market. That is well, and we like it all the better because it comes from experience. These farmers have tried it and found to their satisfaction that it is not the profitable source. Probably the chief cause of this is the enhanced value of the corn as compared with the price a few years ago. When corn sold for twenty-five cents it made just as much pork as when it sells for fifty cents per bushel, but the margin of profit to the man who feeds it to his hogs is not as large, unless the price of pork corresponds to that of corn. That is one very important factor in bringing about this changed condition of things; indeed it is the factor. Something besides the enhanced value of corn enters into the problem, and that is the thermometer, or rather the temperature. A live animal has a certain normal temperature which must be maintained. When the atmosphere is warm as during the summer and autumn there will be no great demands made on the food of the animal in maintaining his normal temperature. Consequently the man who feeds his animal a bushel of corn in October will get a very much larger increase in the weight of the animal than he who feeds a bushel in January. In the cold weather the animal uses up a certain large per cent. of his food in keeping up the heat of his system, and after that is done the balance will go to adding to his growth. Now it is clear that if it takes ten per cent. of the food to maintain his temperature in October, and thirty per cent. to do

the same in January, the animal will fatten much faster in the mild autumn than in the cold winter. Hence it is for the interest of the farmer to have early pigs, feed and fatten for early market. If early pigs can be made to dress 275 to 325 pounds or even more than that in exceptional cases, by the holidays, it is much better than to feed all winter for the spring market, unless the price of hogs is very much higher in spring than in autumn.—*Farmer's Review*.

### CLOVER FOR HOGS.

I would not undertake to summer hogs without clover. During this season clover takes the place of corn. Hogs like it better than any other grass, and do better on it. A clover field is as near heaven as a hog can ever get. A clover patch in blossom is a hog's paradise. There he finds that perfect peace and fulness of joy which man finds not outside of bowers elysian. Nor is clover a more expensive food than corn; on the contrary I believe that it is the cheapest food that can be provided for hogs. It is true that where the growth is luxuriant, as it should be, the hogs will drag and trample down part of it, but this is not lost by any means. It will become incorporated with the soil and add to its fertility. The soil will be enriched by the swine manure left on the ground in addition to this. The true value of hog manure is not recognized. Some farmers endeavour to save the solid excrement, but no effort is made to save the liquid manure. Yet careful analyses and practical experiments have proven that the liquid manure, while not so great in bulk as the solid, is of so much better quality that the value of each is about the same. While the hogs are pasturing the clover, both solid and liquid manure are put on the ground at no outlay of money or labour on the part of the farmer. I consider the fertility thus added to the land a large rent for it; and I get that rent in cash in the increase in the two succeeding crops of corn. Clover is the thing for hogs in summer, and clover sod corn the thing for hogs in winter.—*John M. Stahl, in Prairie Farmer*.

### SHEEP HOUSES.

W. D. Boynton, of Shiocton, Wis., writes as follows to the *Farm and Garden*:

"Judging from what we saw during a recent trip through this part of the State, it seemed as though most farmers had an idea that any place a sheep could crawl into was all that they required in the way of housing. In many cases we saw a sort of half basement under the barn floor, three or four feet high, used for a sheep-stable, and into these low places the sheep were crowded so that there was only forty or fifty cubic feet of air for each animal. These same farmers were willing to allow 900 or 1,000 cubic feet to a horse, and 500 to 600 cubic feet to a cow. According to this appointment a sheep should have at least 150 cubic feet of space.

"In our experience sheep will not bear crowding or close confinement as well as most other animals. The heavy coats they wear would indicate an adaptability to cool, roomy quarters, or even open exposure, rather than small, low pens. They are less troubled with ticks when given plenty of room and pure air. If nothing better can be afforded, a broad pen covered with straw would answer the purpose, and be a great improvement on the 'creep-holes' so common throughout the country."

Half millet and half corn ground fine will make better pork than corn alone. It will have a better proportion of lean, and the pigs will be healthier while fattening. Ground millet is a very appropriate food for young pigs, giving them a large and muscular frame.

## BEES AND POULTRY.

## AFRICAN BEES.

I keep two apiaries at a considerable distance from each other, to one of which my gardener, a coloured Malay, attends, and the other a Kafir labourer. At first they were generally stung when passing too near the entrance of a hive, but now they pass and re-pass with impunity. They work with the bees more frequently than I do; and yet, when either of them assists me in his own apiary he receives more stings than I do. This I ascribe to the gardener using snuff in his mouth very freely, and to the Kafir's very pronounced odour. To test the recognition of the bees I once requested the Malay and Kafir to change clothes with each other and wear thick veils over their heads and faces. They did so, and assisted me first in the apiaries to which they were respectively in the habit of attending, with the result that they received no stings, but when either began to work with the bees in the apiary he usually did not attend to he was so stung about the hands that he had to beat a hasty retreat, while I remained uninjured, although not veiled. The two men are almost of the same size and build, so that if the bees had any power of general recognition they would probably (as some of the other servants did) have mistaken the one for the other. I can, therefore, only account for the conduct of the bees by the unpleasant, and to them strange, odour. At my request the gardener discontinued the use of snuff in his mouth for some time, and during that time he was not stung more than I was while working with bees, but if the Kafir stands before the entrance of an unaccustomed hive he is remorselessly stung. I may add that Cape bees are very much more vicious than European ones seem to be, and that, if not skilfully handled, they will unmercifully sting their most familiar friends. On one occasion a bunch of carrots was left near the gardener's apiary, which so enraged the bees that they stung him and every one else they came across, and very nearly stung a cow to death at a distance of about a hundred yards from the apiary, and on another occasion a horse, still wet with sweat, trespassed too near a hive, with the result that the whole apiary was in an uproar, and some of my children and servants were stung, the chief victim being a Malay girl, who used to apply quantities of scented pomatum to her hair, and who was severely stung on the head.—*Nature*.

## POULTRY AT LARGE.

Only exceptionally is a hen at large anything less than a nuisance. Nor is she usually any greater source of profit than if confined within reasonable limits. Hens at large lay in secret, out of the way places, in the grass, where the mowing machine will break the eggs, under buildings, where only rats, cats, skunks, weasels and hens can go. Then they sit and bring off broods at unseasonable seasons, which are much more likely to be caught and destroyed by foxes and hawks than if kept within civilized limits.

We like the plan of having an orchard and poultry yard one and the same, and the larger the orchard the better for the poultry, and the less likely they will be to fly out, if the enclosing fence is what it should be. Hungry hens of the light breeds will fly over a pretty high fence to get where there is food, but the heavier kinds, if well fed, may be kept in a large enclosure with a comparatively low fence. A four-foot picket fence around a half-acre pear orchard has proved an almost perfect protection to all outside crops, from such fowls as the Asiatics and Plymouth Rocks, and for general purposes there are few better breeds.

There may be times when a flock of hens may be of use running at large, to pick up insects or scattered grain that would otherwise be wasted. They may well be let loose just at night to eat grass, if their enclosure is very small; they frequently may do no harm in very early spring or late fall, but there should be a yard on every farm where they can be confined, and this should be their home at all times. It will be found much less work, less costly and less annoying to keep fowls enclosed in a suitable home of their own, than to keep them "shoo'd" out of the garden, out of the barn, off from the carriages, off from the piazza, doorstep and lawn, where the children like to roll and tumble. So while we are sighing for a cheap, light fence to surround our flower beds and kitchen garden, let us sigh a little louder and have one to go around the poultry yard, one that will keep hens in and skunks and other predatory animals out. But until such a fence is offered, plain, pine pickets will accomplish a good deal, if they are strung round a liberal area, and the fowls are well supplied with what they need to keep them healthy and also profitable to their owners. It is poor poultry farming that does not double the investment, or pay one hundred per cent. profit annually on first cost.—*N. E. Farmer*.

## DO BEES REMOVE EGGS?

Do bees remove eggs from one cell to another? This question is answered by Mr. A. Pettigrew, in the *London Journal of Horticulture* in this wise:

Yes, certainly. This I have known and witnessed for fifty years. I have often seen eggs, laid by queen bees before being removed from their hives, set in other cells after their removal, and have known such eggs become queens, thus proving that they were not the eggs of fertile workers. Queen excluders then, so much talked about at present, cannot be of much use. No, they are valueless; for if bees determine to breed in any part of a hive queen excluders will not prevent them. Last September a correspondent of a journal wrote that one of his colonies lost its queen when the combs were filled with honey, brood and eggs. He removed the frame of honey, and gave them a frame of empty comb in its place. The hive was examined four or five days after, when there were found several queen cells on the empty sheet of comb. As it contained no eggs when placed in the hive, he saw that the bees had taken them from one comb to another. Eight queen cells were erected and filled on the empty sheet. He adds: "There can be no mistake about this, for I took the empty frame from my honey room, where it had been laid six or seven weeks." If more evidence is wanted it may be found in the fact that in many instances—I might venture to say in all instances of breeding in super—the bees first prepare in the cells for the reception of eggs; and experienced men on examining supers can tell where the eggs will be deposited. Bees are the masters and determine these matters themselves without consulting queen or queen excluders. It will be well for bee keepers to remember these facts."

## EGGS FROM EUROPE.

Two hundred thousand dozen eggs have been received at New York from Europe during the past nine months. The importations have ceased until the middle of September, when they will be resumed. The home supply is so large during the summer months and the risk on imported eggs so great that for the ensuing three months none will be brought from the other side to place on the market here. The eggs that come to this country are shipped from Germany and Denmark

principally, and also from France. Italy and Turkey were two great egg producing countries, but the shipments to the United States are not made from them. The eggs come packed in straw, in long cases containing 120 dozens each. The only difference between imported eggs and those produced in this country is, that the former are somewhat smaller and the shells perhaps a trifle harder. The eggs are consigned on commission, and sold at from one to two cents less per dozen than domestic eggs. The lower price is on account of the size. A member of a general produce house recently said to a newspaper reporter that in time eggs would doubtless be sent from China to San Francisco. Poultry raising is an extensive industry in China. Eggs would keep as long as six or eight months, although that was of course too long, and there were no difficulties about transportation in the way. The cheapness with which eggs can be produced in China made such a thing possible. Fowls are kept on the boats on the rivers, and, in fact, everywhere. Enough eggs could be sent from China to supply the whole United States.

## THE CHOICE OF BREEDING FOWLS.

A correspondent, writing to the *Country Gentleman*, says: "In choosing breeding fowls, care should be taken to discard all which manifest any weakness, choosing only those that are strong and healthy. If the broods had been much afflicted with the gapes the year before, it is well to reject any known to have survived the attack, although they may not show any signs of debility whatever. Not that it is hereditary, or that the distemper is catching. Hold that any fowl is weak which shows all the signs and symptoms of the gapes, although with careful nursing and surgical operation they may withstand the disorder and survive. The vigour is impaired, and there remains only sufficient for the fowl itself, and none to impart to the offspring. Early eggs are apt to become chilled when first set. This is another cause of failure to hatch. The first ten days is the most critical period of incubation. Later than this the shell becomes tougher and harder, the inner skin thickens and protects the rapidly-increasing embryo, which at this stage begins to show life.

"It is often the case that full-grown chicks do not break from the shell, although the chick is strong in the unchipped shell and cries lustily. However, it dies in the shell the following day. This is frequently the case with eggs from old hens. I have attributed the cause of this to too much heat and a lack of moisture. At the start the shell of the egg is thick and strong, and the increased strength that is added from incubation makes a wall so strong that it resists all the efforts of the young chick. These eggs should be set on the ground."

## POULTRY ACCOUNT.

We have always kept fifty to a hundred chickens, and let them take care of themselves. I never knew whether it was profitable or not. We never sold many eggs. In the spring, when eggs were plentiful and therefore cheap, we sold some, and occasionally sold a few spring chickens to hotels in town. We had all the eggs we wanted to use, and all the chicken meat we could eat, and we never inquired farther. Last year I kept an account of "profit and loss," and was agreeably surprised. We had ninety-four hens in the spring, and I began to care for them, systematically, April 1st. We gathered and sold \$100 worth of eggs, and raised over 200 young pullets ready for winter laying, or at least very early in spring. We sold, also, \$88 worth of chickens in the market. My wife has the \$188 in her pocket-book, and nothing will convince her now that chickens are not profitable.—*Cor. Ohio Farmer*.

## GOOD PAY TO AGENTS.

Agents wanted in every village, town, and township, to make a thorough canvass for the *RURAL CANADIAN*. Liberal inducements. Work to commence at once. For full particulars address

O. BLACKETT ROBINSON,  
Jordan Street, Toronto. Publisher.

### The Rural Canadian.

TORONTO, AUGUST, 1883.

In our advertising columns there is an announcement that, during the Provincial Exhibition week, there will be a public sale of thoroughbred stock at the Ontario Experimental Farm in connection with the Agricultural College, Guelph. This will be a splendid opportunity for purchasers who wish to possess first-class stock. It is varied and valuable, but limited in number, so that those intending to purchase would do well to be on time.

A FAT Stock Show is to be held at Toronto, Dec. 18-15, under the auspices of the Ontario Agricultural and Arts Association. Premiums have been offered to the amount of nearly or quite \$1,200. This Association also proposes spending \$2,000 on four ploughing matches, to take place in four separate districts. Officers of the Association for the current year are: President, D. P. McKinnon, South Finch; vice-president, Joshua Legge, Gananoque; secretary-treasurer, George Graham, Toronto.

BUCKWHEAT is not held in much favour by good farmers, but is not without its merits. Its flour contains less starch than wheat flour, but it makes a nourishing food, and is said to be not so liable to acidification on a weak or dyspeptic stomach. Its flavour when made into griddle cakes is grateful both to children and adults, and in some parts of the world it is one of the staples of food. Millions of German peasants thrive upon it, and become a healthy, handsome, and vigorous race. It is also an excellent food for poultry and for fattening hogs, but care should be taken not to feed it too liberally or without change of diet, otherwise it may produce itchy eruptions of the skin.

PORK-MAKING is, for many reasons, one of the most profitable industries of the farm. Hogs breed at an early age; they are very prolific; they may be made ready for the market in one-third the time required for cattle or sheep, they require less shelter: they utilize more of the food they consume than other animals, and they have a smaller proportion of offal. Hogs will eat almost anything that grows on the farm, whether grass or grain, refuse of the granary or the kitchen. And then they may be made ready for the market, matured and fattened to the point of largest profit, within the age of one year. This is more than can be said of cattle or sheep, by a large odds.

A MOTON was recently carried in the British House of Commons, in view of the prevalence of foot-and-mouth disease, restricting the importation of live cattle to supplies from those countries whose preventive laws or the sanitary condition of whose cattle afford reasonable security against the extension of disease. The mover of the resolution paid a special compliment to the sanitary laws of Canada and Scandinavia, and urged that these countries afford a large supply of good animals for the British market. This is no doubt true, and in this Province the demand continues very brisk. Dealers who contracted last fall for shipping room find themselves compelled to buy up beasts of all sizes, and consequently their profits are likely to be small. The fact is, that our farmers are unable to keep up with the active demand of the last two or three years, both for the home and British markets.

## THE PROVINCIAL EXHIBITION.

The thirty-eighth exhibition of the Agricultural and Arts Association will be held this year in the city of Guelph, commencing on Monday, September 24th, and continuing throughout the week. The prize-list is as full and liberal as usual, and doubtless will attract a goodly number of competitors. Guelph is, in many respects, one of the best places in the Province for an agricultural exhibition. Not only is it situated in one of the best agricultural counties in the Province, famous for its breeders and feeders of live stock, and for its root and grain crops, but it is easily accessible by rail from all the best farming counties of the Province. The only serious drawback is the lack of hotel accommodation, but the citizens have it in their power to largely overcome this objection. The accommodation may be made ample if private houses take in guests. But even without this it is possible to provide for visitors, as the towns of Galt, Berlin, and Stratford are not far away. Being the seat of the Agricultural College, Guelph is now, more than ever, a desirable place for such an exhibition as this one, and doubtless hundreds of farmers will take advantage of this opportunity to visit the model farm. The fact that the annual sale of live stock of the farm is to take place during exhibition week is one more attraction, and altogether we have reason to look for a show in no whit inferior to any yet held under the auspices of the Association.

## WEEDS ON THE FARM.

A dirty farm is a reflection on the farmer, for it shows, among other things, that he is lacking in neatness and taste. Land that is overrun with weeds cannot be in a good state of tilth, and without cleanliness and cultivation of the soil it is sheer folly to look for good crops. Weeds require no cultivation. They are the "thorns and thistles" of the primeval curse, and they never thrive so well as when left alone from seedtime to harvest. To be kept under they must be fought steadily and persistently. The hoe, the plough, and the cultivator are the best of weapons for subjugating them, and the farmer who uses these judiciously needs have no fear for the issue. But there are some seasons in which the fight must be waged with vigour, and there are some weeds that require heroic treatment in the most favourable of seasons. The present year, for instance, is a propitious one for weed life. The kindly rain has promoted growth and hindered cultivation, and thus in a double way has helped the growth of weeds. It is accordingly a year in which the farmer is called upon to double his efforts to keep the ground clean, for if the weeds are given a good start there is little hope for any other kind of crop. Corn and potatoes are readily choked out, and under any circumstances they require all the strength of the soil to promote their own growth. With the free use of the plough and the hoe as soon as the young plant shows itself above ground, there is no fear of weeds getting the start. And every farmer who looks for success in his calling must wage a steady war against weeds with plough and hoe. None should be allowed to go to seed, for a few are sufficient to stock a farm. If this matter is properly looked after, if every weed is destroyed before the seed is ripened, the task of keeping the land clean will become less and less arduous each succeeding year. The Canada thistle, the dock, the wild oat, and the wild mustard will as certainly yield to this treatment as the common pig-weed itself. If no stem or leaf is permitted to grow for one entire season, the roots will usually die out. A strong pull, a long pull, and a pull altogether is what is wanted. There are altogether too many dirty farms in Ontario.

## FEEDING YOUNG HORSES.

It is no doubt true that, speaking generally, much more care is bestowed on cattle, sheep, and hogs than on horses. There is a great deal more of special feeding of the former than of the latter, especially during the young and growing state. It is no doubt true, too, that this is a mistake, for with proper care the raising of horses may be made as profitable as that of any other farm animal. The horse is valuable in proportion to the development of its muscle, and while the strong one is very good the weak one is very poor property. Yet how few farmers there are who pay attention to feeding with the object of producing muscle; how few, indeed, think of giving any food to the young colt before it is weaned, whether the maternal supply is much or little! Two quarts a day of cow's milk, fed morning and evening, is found by experience to have a most beneficial effect, for it is rich in the materials for building up bone and muscle. Linseed and oat meals are also exceedingly valuable, and if given in moderate quantities during the first year the foundation of a strong and vigorous constitution may be laid. The practice of leaving young horses to pick their own living on the farm demands radical reform; feeding is only second in importance to breeding.

## BOOK NOTICES.

FEEDING ANIMALS. A Practical Work upon the Laws of Animal Growth, etc., etc. By Elliott W. Stewart. (Lake View: Published by the Author.) Mr. Stewart, the author of this really valuable treatise, is one of the editors of the *Live Stock Journal*, and was formerly Professor of the Principles of Agriculture in Cornell University; is also a practical farmer. He is therefore eminently qualified to speak intelligently on the subjects of which he treats. The farmer will find in this excellent manual a great amount of valuable information which he can at once put to practical and profitable account. There are a number of useful illustrations, and, to facilitate easy reference, a copious index will be found at the end of the work. It is well printed and substantially bound. The following extract will give our readers an idea of the value of Mr Stewart's book:—

### COST OF ENSILAGE.

M. August Goffart states that he is able to take the corn growing in a field, cut it, haul it to the silo, run it through the cutter, pack and cover it in the silo, for one franc per ton—a little less than 20 cents. This cannot be done in this country, because our labour wages are more than double those in France. What, then, is the whole cost of producing and ensilaging one ton of corn? Whitman & Burrell estimate it at 80 cents per ton. Mr. Avery estimates the cost of harvesting, hauling, running through a cutter, packing in a silo and covering at \$200 for 300 tons, or 66 cents per ton. Dr. Tanner, of Orange County, N.Y., estimates the cost of harvesting and putting in the silo complete 150 tons at 75 cents per ton. Mr. Chaffee, of the same county, who put up ensilage for thirty cows, estimates the whole cost of raising corn and storing in the silo at \$2 per ton, and this he considers very cheap feed. The whole cost of raising corn and putting it in the silo has been estimated by some half dozen others at from \$1 to \$2 per ton. If we take the latter figure as approximating to the real cost, and if we estimate three tons of properly-kept corn ensilage as equal in feeding value to one ton of good hay, then we find it as cheap as hay at \$6 per ton in the barn. But the great advantage to the small farmer in corn ensilage is, that he may produce as much cattle food upon one acre of corn as upon four to six acres in meadow; yet the drawback to this view is, that the meadow produces a complete cattle food, whilst corn is not a complete food, but must be fed with other nitrogenous food to obtain its full value.

The conclusion, then, must be, that all the grasses, including corn, supplemented by the clovers and other leguminous plants, must go into the silo altogether, and these furnish complete rations for the production of meat, milk, and wool. The labour bestowed per ton in ensilaging the grasses and grains in the more succulent state will be even less than for corn, because the former can be more easily cut by the mowing machine and handled by the horse rake and hay-loader, or even with the fork.

It is also quite probable that the grasses, in the fit condition for ensilaging, may be put in the silo with less labour than they can be cured and put in the barn.

The larger digestibility of succulent grass over that of cured hay will certainly be an ample remuneration for this new method of preserving it. It is quite true, however, that by some small German experiments it appears that grass, after carefully drying, is as digestible as in the succulent condition; but when these experimenters seek to generalize from these few and exceptional cases, founding upon them a general axiom that green food loses none of its digestibility by drying, let us oppose to this the great general fact that cattle grow and fatten rapidly and profitably upon the succulent grasses, but cannot be profitably fattened upon the dried grasses or hay. Our meadows are usually stocked with nearly the same combination of grasses as our pastures, but who would assert that a full ration of the best hay would produce as much milk or lay on as much flesh as the best pasture? Such facts, open to the general observation of all intelligent feeders, are not to be upset by a German experiment upon two sheep!

#### AMERICAN POMOLOGICAL SOCIETY.

The Pennsylvania Horticultural Society having invited the American Pomological Society to hold its next meeting at Philadelphia, its officers announce that the nineteenth session of this national association will be held in that city, commencing Wednesday, September 12th, 1889, at ten o'clock a.m., and continuing for three days.

This session will take place at the time of the fifty-fourth annual exhibition of the Pennsylvania Horticultural Society, at Horticultural Hall, Broad, near Locust street.

All horticultural, pomological, agricultural, and other kindred associations in the United States and British Provinces are invited to send delegations as large as they may deem expedient, and all persons interested in the cultivation of fruits are invited to be present and take seats in the Convention. It is expected that there will be a full attendance of delegates from all quarters, and that this will be the largest and most useful meeting ever held by the Society.

The catalogue of fruits published by the Society includes nearly all the States and Territories, and is filled with a great amount of information as to the fruits adapted for culture in the respective locations. Some of these are yet incomplete, and it is the object of the Society, from year to year, to fill the blanks and bring its catalogue nearer to perfection. To accomplish this object as fully as possible, the chairman of the General Fruit Committee, P. Barry, Esq., Rochester, N.Y., will send out the usual circulars of inquiry.

When we consider the great importance of fruit culture in North America, its rapid progress during the last thirty-five years under the beneficent action of this Society, the great value and rapidly-increasing demand for its products at home and abroad, we feel warranted in urging the attendance of all who are interested in the welfare of our country and the development of its wonderful resources in this branch of agriculture.

Arrangements have been made with hotels and some of the railroads terminating in Philadelphia for a reduction of fare. In most cases it will be best for delegations to arrange for rates with the roads in their localities.

A local Committee of Reception has been appointed, to whom are confided all matters pertaining to the reception and accommodation of the members and delegates of the Society. The chairman is Hon. J. E. Mitchell, 810 York avenue, Philadelphia.

At the last meeting of the Society it was decided in future to encourage general exhibitions of fruits, as well as new varieties or novelties. It is earnestly requested that no duplicates appear in any collection, and that none but choice specimens shall be placed on exhibition. Exhibitors should not fail to give notice as far as possible, at an early date, what room will be needed for their fruits. Six specimens of a variety will be sufficient except in fruits of unusual interest. A limited number of Wilder medals will be awarded to objects of special merit.

Packages of fruit should be addressed to Thomas A. Andrews, Horticultural Hall, Broad street, Philadelphia, for the American Pomological Society. Freight and express charges should be prepaid.

A number of essays on practical subjects relating to fruit-growing will be read by eminent horticulturists.

#### MANITOBA.—CROP BULLETIN.

Acton Burrows, Deputy Minister of Agriculture of Manitoba, has issued the following crop report:

Sir,—I have the honour to report the result of the second series of questions addressed to the crop correspondents of the Department throughout the Province.

A circular was issued June 29th to 420 correspondents, of whom 260 have replied up to date. The value of these reports will be better judged when it is understood that each one is from a separate township. The principal portion of these replies were written during the second week of the current month, at the beginning of which the want of rain was being felt in nearly every district to a considerable degree. Commencing on the 11th in the western portion of the Province, and on the 12th in the eastern, showers, followed by heavy thunderstorms, prevailed, and supplied the much felt want. The general success of the grain harvest has now been placed beyond a doubt.

#### WHEAT.

The comparative acreage sown shows an average increase of 54 per cent. over 1882. The reports from points throughout the whole Province are of a very satisfactory nature, and large yields are fully expected in the great majority of cases. Though suffering from the extreme and prolonged dry weather in the early part of the season, still only in a very few cases is absolute injury reported, and these occur only where the grain was late in being sown. From very many points reports speak of wheat as "flattering," "wheat looks remarkably well," "wheat favourable," "wheat never looked better," etc., etc. In a few cases worms are reported as injurious, but no serious complaints are made. A very bountiful crop will no doubt be reaped, with the general yield over an average.

#### OATS.

The extent to which oats has been sown as compared with that of last year shows an average increase of 58 per cent. In a great many localities the spring was backward, and oats sown late were injured by frosts in the early part of June. Serious injury, however, is only reported in a very few places. Grubs and worms are also spoken of as working destruction in some localities. The great majority of reports speak confidently of a good average crop, and no fears are expressed of any failure or scarceness.

#### BARLEY.

Though not grown to nearly so great an extent as wheat or oats, barley shows an average increase in acreage of 86 per cent. over 1882. This grain seems, too, to have suffered to a considerable extent from the early June frosts and also from worms. However, very encouraging remarks are made, and a good, fair average crop will be

general. The dampness of the ground in the early part of the season, and the want of rain later on, has caused the straw to be short, but reports generally speak of barley as "looking sound" and having a "good colour."

#### PEAS.

Field peas do not appear to be grown to a very large extent as compared with some other grains, but they show an average increase in acreage of 46 per cent. over 1882, and appear to have been very generally sown throughout the Province, though in limited quantities. They do not appear to have suffered from frost, and are generally reported as favourable, and showing evidences of a good crop.

#### POTATOES.

A large increase in acreage in potatoes is reported. Reports as to condition and probable yield differ very much. Frosts are spoken of as having damaged the crop in a number of places, and grubs are also spoken of as having affected them to a certain degree. Rain was wanted to insure a really good crop.

#### ROOTS.

Roots have been extensively planted generally in the Province, but have suffered severely from frost and grubs. In only a few cases are they reported as having escaped damage, and showing signs of a promising crop; whilst from a great many localities come the reports, "Roots almost a failure," "Roots poor," etc., etc.

#### HAY.

Though having suffered considerably from drought, indications point to an abundance in all sections. Relief was felt in some quarters, where the crop promised to be small, by there being a quantity of old hay on hand. There is no doubt at there being an abundance of hay for all who are able and willing to secure it.

#### FARM HELP.

The great difficulty experienced by many farmers in Ontario to obtain the much-needed help for the pressing work of the season will cause them to think how the unsatisfactory state of things now existing may best be remedied. In this connection the following remarks by the *Farm Journal* will be read with interest:—

"We hear much about the demand for skilled labour, but we know of no calling where it is more urgently needed than in modern farming. Improved machinery has largely superseded hand labour, and horses supply a good share of the brute force required. But what farmers need now is intelligent men to manage the machines and the horses. In dairying and trucking also we are in a new era, and there is the same demand for men whose hands are directed by their heads. That the supply is wholly inadequate, thousands of farmers have realized during the last few months. What to do without such helpers, and where to find them, are questions that a good many people are thinking about. It is useless to seek them among the hordes of paupers and criminals that other nations are sending us. The better class of immigrants are mechanics and small farmers. The latter are bent on owning a home of their own in the western country. We cannot therefore depend on either class to supply the farmers' need.

"Our impression is, that the raw material of what we are looking for is to be found among our farmers' boys. For the present we shall have to make out as best we can, and wait. In the meanwhile, let fathers teach their sons by precept and example that there is something in farming besides the dull routine of planting, and tilling, and harvesting; that in the commonest work of the farm there is something interesting, and something that requires thought and skill; that it is necessary for a farmer to observe, to read, to think, to experiment, and that in the long run the honest, enterprising farmer does as much good and has as much real enjoyment as any man. Then perhaps the boys will stay on the farm, and the problem of skilled labour will be solved."

## THE DAIRY.

### EFFECT OF AIR UPON CREAM.

Many a good housewife has found that at skimming, the cream was almost like leather; and when this cream was churned, it was so tenacious that, while churning was going on, specks of undissolved cream in multitudes could be seen as the cream was stirred, which would be found in the butter, and no amount of working would wholly remove them. The real cause for years has been supposed to be the superabundance of air in the milk-room, which would cause too great an evaporation of the moisture in the cream, so that we get cream globules and casein without a natural proportion of water, and if carried to the extreme we get "dry" cream, that makes at best very indifferent butter. In the creameries where milk is set in large vats, so that large surfaces are thus exposed to the air, thick or leathery cream is not so noticeable, except on more than ordinary cool nights, the circulation of air above a certain temperature having no apparent effect. It may be that why the toughening does not take place at the higher temperature, is because of the difference in the temperature at the surface of the cream and that of the milk at the bottom of the vat, causing a continued rising of cream, and thus adding moisture all the time to the cream already risen. On the other hand, the colder temperature caused a more sudden separation of the cream, and then an almost total suspension of the rising process, and in which event the evaporation would cause drying of the cream. It has also been noticed that on hot nights, opening wide the doors of the factory, and allowing the air full play in the milk-room, will not cause leathery cream; but let the temperature drop 20°, and give the air free circulation, and leathery cream results. The milk in shallow pans would be more largely influenced by the air than in the deeper vat, as there is more surface exposed, proportionately.

In order to get the best effects in the churning, cream should be readily separated, even when the skimmer is being used, and such cream, if properly cared for, is a guard against clots or specks of unchurned cream in the butter. Churning tough cream is first a tearing apart process before the churning begins, and may fully dissolve the cream, or may not.

The scalding of milk is a practice that has a feature not unlike the other, inasmuch as by artificial heat an undue evaporation takes place. The only real value in scalding milk is to destroy germs, or expel unnatural odours, either of which could far better have been left out by a little skill. In the creamery or milk-room, where the temperature can be controlled, the cream will all rise; at least all the globules will rise which have enough contents to be acted upon by their specific gravity, and the heavier gravity of the casein, and the only real purpose of scalding cream is to prolong the time of rising. Scalding makes solid cream, but is open to the same objection that is urged against exposure to cold air. Scalded cream is not perfect as to final condition, for it will produce butter a trifle tallowy, shiny in look, and with impaired aroma.

The butter-maker often says that he cannot get cream in cold weather in any other way than to scald. If he attempts to make butter, it is his business to provide suitable aids and conveniences, that he may make a good article. The same man need not complain if he employed a carpenter to build his house, who attempted the job without a square or rule, because he could not afford to buy them. To make butter at the farm dairy requires a special dairy-room and apparatus in keeping with the demanded excellence of the article produced. It is true the creamery men often

economize too much in this direction, and the manufacture of present use dairy goods is too prevalent, and it is possible that so many improvements may be introduced that the making of fine goods may be overdone. I am of the opinion that the air duct of Mr Boies' creamery was not a failure in ventilating his milk-room, but that the defect was in bringing the temperature too low.

### MAKING FARM DAIRYING SUCCESSFUL.

The future of farm dairying ought to receive close attention from those engaged in it. We have cheese factories, butter factories, and factories where butter and skim cheese are made, scattered all over the land, and in some sections they are so closely situated that a farmer taking his milk to the factory has his choice of several factories. These associated dairies and creameries make the market for butter. The product of dairies is always quoted a few cents lower than that of creameries. It may be that farm dairies are inferior to factory-made goods, but it does not seem possible that this should always be so. The farm dairy which is as good as the creamery is not quoted. This condition of things is prejudicial to the makers of fine farm dairy goods. When a dairy of good butter is offered in the market, the price, within certain limits, is made by the quotations of a market to which the goods do not in justice belong. The price is fixed by dairy goods several degrees poorer, quoted on the market. The butter is not "creamery," because it was made on a farm and not in a factory. It may be just as good as creamery butter, but it is not technically creamery butter. It is farm dairy, and farm dairies are quoted lower than creamery goods, and this particular dairy, infinitely better than the common run of farm dairies, goes into market hampered by the fact that the price is already made.

It is true that a great many farm dairies are making a satisfactory market for themselves. There are such dairies all over the country, carried on by men possessing the perseverance and intelligence requisite to make a market where there was none. Such dairies make their own price, and as they have achieved success without the assistance of other dairies, they do nothing to make a market or price for other dairies. The price realized by these isolated dairies is purely an individual matter. No dairy can build a foundation upon the success of another dairy. Those who are progressive and have achieved a fair measure of success can have no pecuniary interest in others in the same calling; but still successful dairy farmers have a strong interest in the success and progress of dairying generally. Farm dairy butter should have a market distinctively its own, not gauged by the price of factory-made butter. The advance of farm dairy butter should be so general and so marked that it should no longer follow factory butter in price, but should, as it can, be quoted first, and thus to an extent control the market for other grades of butter.—*F. K. Moreland, in Country Gentleman.*

### TEMPERATURE IN CHEESE-MAKING.

An indispensable article in cheese-making is a thermometer; no one can, by guessing at the temperature of milk for setting, make a uniform quality of cheese. The temperature to which the milk should be brought for setting may vary from eighty to ninety-eight degrees. Where the temperature is eighty to eighty-four degrees, when the milk is set the curd will need to be heated to ninety-eight degrees afterwards to facilitate the curing of the curd and prepare it for salting and pressing. It is easier to heat the milk to ninety-

eight degrees than to heat the curd, therefore it seems preferable to heat the milk to ninety-eight degrees for cheese-making in private dairies. When the milk is brought to a temperature of ninety-eight degrees less rennet should be used than when the temperature is only eighty to eighty-four degrees. Just enough rennet should be added to the milk, at whatever temperature it is set, to curdle it in from forty-five to fifty minutes. The cheese-vat or tub should be kept well covered so as to keep it from cooling while the milk is curdling and the whey separating. After the curd has formed it is to be cut into squares to facilitate the escape of the whey. The whey may be allowed to drain away soon after the curd is firmly formed, but the curd should be kept warm so as to promote the ripening process. To determine when the curd is sufficiently ripened for salting, some are accustomed to take up a handful, squeeze it and if the particles fall apart when the hand is opened it is ready, but if they adhere the curd should be kept warm awhile longer. In case the curd is heated after it forms, to hasten the ripening, it will be seen that the curd becomes firmer, loses its glossy look, and becomes of a creamy instead of a milky colour. To determine whether it is sufficiently ripened some take out one of the larger pieces, cut it open and note whether the change of colour extends through it; if it does it is done, but if it looks milky inside the cooking needs to be continued. After the curd becomes sufficiently ripe it is chopped fine or ground, and then salted. In Herkimer county, New York, usually from two and a half to two and three-fourths pounds of salt to each one hundred pounds of curd are added.—*Dr. H. Reynolds, in the Mirror and Farmer.*

### CHEESE.

Dairy products are becoming more and more a manufacturing instead of an agricultural industry. There are many substitutes to supply the carbonaceous elements of diet in butter, and economical considerations are fast relegating that article to the list of luxuries. Before this, a panic and hard times had cut down the consumption one-half. Cheese, on the other hand, is a staple article of diet, for which there is no complete substitute. That is really a wasteful process which extracts from milk the oily or heat-producing elements, of which the world has an abundance, and throws to the pigs the casein or muscle-producing part, for which the world has no real substitute. In the development of industrial economies all these facts will assert themselves, ultimately. When the fact becomes permanently established that it will pay better year in and year out, to make cheese than butter, the producer's course will not be uncertain. When it becomes apparent that for a steady, wholesome fat condiment, butter is the dearest and not the best, the consumer's course will not be uncertain. Habit will, of course, go a great way. We are still largely a butter-consuming more than a cheese-eating people; the anticipated change does not include a transfer of a people's diet from butter to cheese, but from one kind of butter to other kinds—a process that is already well on the move. The change contemplates great changes in the dairy business, in sympathy with the tendency of the times towards co-operation, specializing, labour-saving appliances, and new features in handling of all industries.

Cows with short teats are a nuisance in the dairy. All men shirk milking them, which causes them to dry up early and injures the udder. For this and several other reasons, the owner or head milker should always select the hardest and meanest milkers in the herd for his own work. He may then rest assured that every cow in the herd is well handled.—*American Dairyman.*



## HOME CIRCLE.

## NEAT REBUKES.

A rebuke may sometimes be very effectively put into practical form. Thus, at a time when there was a heavy duty upon French gloves, a packet addressed to the French Ambassador having accidentally come undone, the Custom House authorities discovered that it consisted of gloves, whereupon they sent it on as an unpaid post-letter; and though the double postage amounted to more than the single duty, it was paid without comment. Very neat and characteristic, in the way of practical rebukes, was that of Talleyrand to a faithful but too inquisitive confidential servant, whom he saw from the window of his apartment coolly reading a letter entrusted to him to deliver. On the next day a similar commission was confided to the servant, and to the second letter was added a postscript, couched in the following terms:—"You can send a verbal answer by the bearer. He is perfectly well acquainted with the whole affair, having taken the precaution to read this previous to its delivery."

Dean Ramsay, in his "Reminiscences," tells a similar and equally characteristic story of an old Forfarshire lady. She knew the weakness of her man-servant, and when she wished a note to be taken without delay held it open, and read it over to him, saying, "There, noo, Andrew, ye ken a' that's in't; noo dinna stop to open it, but just send it off."

Not bad in its way either was Lord Chesterfield's practically humorous rebuke of the craze for having far-reaching portrait galleries of ancestors. In his own gallery he placed two old heads, inscribed respectively Adam de Stanhope and Eve de Stanhope.

Of the rebuke indirect, one of the finest examples is that attributed to Dr. South. Once, when preaching before Charles the Second, he observed that the monarch and several of his attendants had fallen asleep. Presently one of the latter began to snore, whereupon the bishop broke off his sermon, and exclaimed: "Lord Lauderdale, I am sorry to disturb your repose, but let me entreat you not to snore so loud lest you awaken his Majesty." Less direct, but more severe, was a rebuke said to have been spoken from the pulpit by a Dissenting minister of modern times. While he was preaching he was annoyed by some young people in the congregation whispering and giggling. He paused, looked at the disturbers, and said: "I am always afraid to reprove those who misbehave themselves, for this reason: Some years since, when I was preaching, a young man who sat before me was constantly laughing, talking, and making uncouth grimaces. I paused and administered a severe rebuke. After the close of the service a gentleman said to me: 'Sir, you have made a great mistake. That young man whom you reproved is an idiot.' Since then I have always been afraid to reprove those who misbehave themselves in chapel, lest I should repeat that mistake and reprove another idiot." During the rest of the service, the story concludes, there was good order.

Incisive and dry, as becomes its nationality, was the rebuke of the Scotch shepherd to Lord Cockburn of Bonaly. That nobleman was sitting on the hillside with the shepherd, and observing the sheep reposing in the coldest situation, he said to him: "John, if I were a sheep, I would lie on the other side of the hill." The shepherd answered: "Aye, my lord, but if ye had been a sheep, ye would hae had mair sense."

Less epigrammatically neat, but more richly deserved, was the following rebuke to an unnamed lord, quoted in Selden's "Table Talk":—"A

great lord and a gentleman talking together, there came a boy by leading a calf with both his hands. Says the lord to the gentleman, 'You shall see me make the boy let go his calf;' with that he came toward him, thinking the boy would have put off his hat, but the boy took no notice of him. The lord seeing that, 'Sirrah,' says he, 'do you not know me, that you use no reverence?' 'Yes,' says the boy, 'if your lordship will hold my calf, I will put off my hat.'"—*All the Year Round*.

## KATE.

There's something in the name of Kate  
Which many will condemn;  
But listen now while I relate  
The traits of some of them.

There's deli-Kate, a modest dame,  
And worthy of your love;  
She's nice and beautiful in frame,  
As gentle as a dove.

Communi-Kate's intelligent,  
As we may well suppose;  
Her fruitful mind is ever bent  
On telling what she knows.

There's intri-Kate, she's so obscure,  
'Tis hard to find her out;  
For she is often very sure  
To put your wits to rout.

Provari-Kate's a stubborn maid,  
She's sure to have her way;  
The cavilling, contrary jade  
Objects to all you say.

There's alter-Kate, a perfect pest,  
Much given to dispute;  
Her prattling tongue can never rest,  
You cannot hear refute.

There's dialo-Kate, in quite a fret,  
Who fails to gain her point;  
Her case is quite unfortunate,  
And sorely out of joint.

Equivo-Kate no one will woo;  
The thing would be absurd,  
She is so faithless and untrue,  
You cannot take her word.

There's vindi-Kate, she's good and true,  
And strives with all her might  
Her duty faithfully to do,  
And battles for the right.

There's rusti-Kate, a country lass,  
Quite fond of rural scenes;  
She likes to ramble through the grass  
And through the evergreens.

Of all the maidens you can find,  
There's none like edu-Kate;  
Because she elevates the mind  
And aims at something great.

## THE LARD KING.

Mr. Peter McGeoch, the great Chicago speculator in lard, known at the Chicago produce exchange as "the lard king," owing to the vast extent of his transactions, has at last come to grief, and with him, and as a consequence of his failure, a number of other smaller kings. We are glad of it, and only wish that all such kings might come to a like fate.

The business of buying and selling "futures" as it is conducted by stock and produce speculators, is simply downright gambling under the forms of bargain and sale, as much so as betting at a faro table, or betting on a horse-race, or betting on the result of an election. The seller sells what he has not and never expects to have, and the buyer buys what he never expects to receive. The transaction between the two is simply a bet on the future price of the article that is nominally the subject of the contract. The seller, in the language of the speculator, is a "bear," and wants the price to go down as the means of winning the bet. The buyer is a "bull," and wants the price to go up as the means of putting the bet in his favour. Their relations to each other are not those of legitimate traders at all; but simply the relations of gamblers. Their relations to so-

ciety are of the same character. The business in which they are engaged supplies no want of the general public, any more than gambling supplies the wants of the general public. Their contest with each other is practically that of enemies. The "bear" does his best to fleece the "bull" by depressing prices, and the "bull" does his best to fleece the "bear" by raising prices. The upshot of the struggle is, that one loses and the other gains, and that neither has done anything that is of the slightest service to human society.

All this is quite bad enough when stocks and bonds are the subjects of such speculative transactions. But when, as has become the fact at the great produce exchange of the country, the necessaries of life, as wheat, flour, pork, beef, lard, butter, etc., enter the arena, and their prices are kicked about in all directions under the manipulations of produce gamblers, the business, so-called, is an intolerable nuisance to those who need to buy and must buy these articles for daily consumption. Produce gamblers, betting with each other and betting against each other, fix the price, and not the natural and healthy law of supply and demand. The general community, including all legitimate traders all consumers, must bear the consequence of this gambling. Market prices are taken out of the current of natural laws and forced into the channel of artificial spasms. The result is bad for business and bad for morals.

Some attempts have been made by law to stop such gambling in the necessaries of life; but hitherto law has not been very successful in suppressing the evil. It goes on full blast at Chicago, just as if there were no law in the State of Illinois against it. There are, perhaps, difficulties, possibly insurmountable difficulties, in stopping this sort of gambling by the mere agency of law. The essential difficulty consists in enacting a law that will hit the evil, and at the same time not hit other things that ought to be let alone, and then in so executing the law as to make it do this work and do nothing else. Whether this is practicable or not, we are glad when the evil turns its penal agency upon the evil-doers and severely punishes them. We have not a tear to shed over the failure of the "Lard King." If it shall make him so absolutely bankrupt that he can never rise again, all the better. If it were a fixed law that every gambler shall in the end lose all that he ever wins, and at last die in squalid poverty, no harm would come to the general interests of the world.  
—Independent.

## THE BATTLE OF LUTZEN.

The King sang with his soldiers Luther's grand hymn, "Eine feste Burg ist unser Gott," and then his own battle song "Verzage nicht, du Hauflein klein!" He addressed, first to the Swedes, then to the Germans, two of the noblest orations before a battle that history records. In an enthusiasm of heroism he threw off his cuirass and cried, "God is my armour!" Wallenstein was suffering from gout in the feet. Although his stirrups were thickly padded with silk he could not ride, and took his place in a litter. He called his officers together and gave them his orders, which were to fight chiefly on the defensive. Gustave gave out the war cry, "Gott mit uns!" Wallenstein gave to his troops as a battle cry "Jesus Maria!" About eleven the mist cleared a little, and the fiery King himself headed the attack upon the imperialist lines and ditches. Gustavas, riding alone with his cousin, Duke Franz von Lunenburg; the page, Luëbeling, and a groom, stumbled upon an imperial ambush. His horse, maddened by a bullet, threw its rider and fled. The King received a bullet in the arm and another shot in the back. This second shot

was, as the Swedes maintain, fired by Lauenburg, who left the King to his fate, rode away, and afterward joined the imperialist side. German historians speak doubtfully on the point, and the question of Lauenburg's treachery may be considered an open one. The imperialist soldiers did not believe that the King could be alone with so small an escort. They, however, took Gustavus to be an officer of rank, until he cried out, "I am the King of Sweden, and seal with my blood the Protestant religion and the liberties of Germany. Alas! my poor Queen!" The Imperialist soldiers then killed and stripped him, and the tide of battle rode past the dead body. The faithful page, who alone remained with Gustavus, tried vainly to mount the King upon his own horse. The poor lad died, five days afterward, in Naumburg, of his wounds. So fell Gustav Adolf. Lutzen was like a victory of Trafalgar with Nelson lost. His own side were startled when—

"The loose rein dangling from his head,  
Housing and saddle bloody red,"

the King's horse rushed back into their lines. They did not know that he was dead; they supposed him taken prisoner. A kind of sacred fury possessed the troops, and the spirit of Gustavus rendered them invincible. Wallenstein sustained an overwhelming defeat, and before night was in full flight toward Leipsic. Herzog Bernhard remained in the field as victor of Lützen. Wallenstein's own baggage was pillaged by his own people. He had been grazed by a bullet, but was not hurt. He was believed to bear a charmed life, and the day of Lützen strengthened the belief. The imperialists lost many officers of note. The gallant Papponheim, the knightliest of Wallenstein's commanders, and Colorado were both killed. Piccolomini had five horses shot under him. Holk, Terzky, Harrach, and many others were severely wounded, but, apart from the greatness of the victory, the sadness of Lutzen was and remains the soldiers' death of Gustav Adolf. Wallenstein rewarded highly and punished severely. He distributed 82,210 gulden among officers who had behaved well; but he executed as cowards eleven officers by the sword, he hanged others, some had their swords broken by the hangman under the gallows, and the names of many were nailed in infamy on the gibbet. A Te Deum, on the first news of the battle, was performed in Vienna; but Wallenstein, at least, knew certainly the magnitude of the defeat that he had suffered.—*The Nineteenth Century.*

#### A SURE CRITERION OF CULTURE.

A friend had returned from a neighbour's funeral, and remarked that as she looked down upon her peaceful head, resting on its smooth, coffin pillow, she never saw Mrs. Tompkins look so comfortable in her life.

And, indeed, it was a great change for her, and for her family also. The great, freckle-faced boys could not sit now teasing their rough boots about the kitchen fire while mother walked over and around them to get their meals. They would have sometimes to go out into the snow and rain to bring in the wood and draw up the water by the old, creaking windlass for themselves, now that the poor, patient drudge who did all these errands for them had gone from their midst. Oh, yes, they would "miss her;" but how they would have stared had she ever called upon them to do any of those things they considered "woman's work" while she was with them!

It was a bad way to bring up boys, I admit, but it was hard work to make headway against the example of such a father. He had, from the start, expected his wife to attend to all the affairs about and around the house, and even the wood-pile, in hurrying times. She was to do her work

with no facilities for lightening it, and the more she could "make out" without help or outlay the "smarter woman" she was. I have known a great deal of ambition of this kind in rural districts, but it is greatly to be hoped that it has had its day. I have no doubt, however, but that the Tompkins boys are repeating over the lessons learned at the home fireside in new homes of their own. Their very faces betokened a low organization.

You will everywhere find, both in nations and in families, that the grade of culture can be almost surely gauged by the way in which woman is treated. A traveller in a European country saw this curious division of labour. A woman walked along with a large tub of water on her head, and a man went by her side with a ladle to dip out the water and pour it on the plants. Where such customs prevail, you will find the type of manhood but little above "the beasts that perish."

A noble, Christian man said he should never forget the chivalrous devotion of his father to his invalid mother, who died early. He was a hard-working man, but every morning he took all possible pains to make the day easy and comfortable for her. He denied himself, and worked over hours to provide comforts for her—in everything placing her first in his thoughts. Nothing was said about it, but the little boy looking on silently took in a lesson that in later years developed in him a noble character which the world loved to honour.

There are homes unblessed by such a thoughtful father, but sons may, if they will, take an upward rise and become much more gentlemanly and respected than ever their fathers were.—*Adella, in Farm and Fireside.*

#### HOUSE DECORATION.

Out of the mass of inharmonious colourings and decorations that of late years have become a mania with many, happily some things of real beauty and lasting worth have been evolved. For instance, the use of hard wood in natural colours has superseded the old-fashioned, staring white paint for interior work. For those who do not find this available, it is but a comparatively small expense to cover the white with some of the pretty olive colours, sage green, grays, or drabs in two shades. They are all desirable. Even the expense of a professional painter can be dispensed with, as some member of the family can do the work quite well with a little care and practice. Use a small, partly-worn brush for such work, as it lays the paint on more evenly; use but little paint on the brush, apply lightly and smoothly as possible.

In the colouring of walls, neutral tints have the most pleasing effects, though brighter colours may be introduced in the frieze to advantage. The dull Pompeian reds are handsome for halls and dining-room, while lighter shades of olive, buff, or gray are preferable for chambers.

So also the carpets should be of subdued colours and delicate figures. Especially should this be so where bright rugs are used. The fine checked and tinted mattings are neat and useful for chambers. With a bright rug here and there, and tasteful cretonne curtains, the effect is quite charming.

Rugs are quite invaluable for brightening faded carpets and worn mattings, and are gradually coming within the means of all, as they are more generally used.

In furnishing, one should have in view the general harmony of a room. Plenty of red is desirable, but a bit of it here and there is much more effective than a mass of scarlet. A table-

cover, scarf, vase, or tidy, a bright ribbon run through the wicker chair, or looping back a curtain will brighten up a room wonderfully.

A little observation and taste will go farther than a long purse in the arrangement and decoration of a house to render it artistic and beautiful.—*Western Agriculturist.*

#### THE SIN OF FRETTING.

There is one sin which, it seems to me, is everywhere and by everybody under-estimated, and quite too much overlooked in valuation of character. It is the sin of fretting. It is common as air, as speech, so common that unless it rises above its usual monotone, we do not even observe it. Watch any ordinary coming together of people and see how many minutes it will be before somebody frets—that is, make more or less complaining that statement of something or other, which most probably every one in the room, or on the stage, or the car, or the street corner, as it may be, knew before, and which most probably nobody can help. Why say anything about it? It is cold, it is hot, it is wet, it is dry; somebody has broken an appointment, ill-cooked a meal, stupidity or bad faith somewhere has resulted in discomfort. There are always plenty of things to fret about. It is simply astonishing how much annoyance and discomfort may be found in the course of every day's living, even at the simplest, if one only keeps a sharp eye out on that side of things. Even Holy Writ says we were born to trouble as sparks fly upward. But even to the sparks flying upward, in the blackest of smoke there is blue sky above, and the less time they waste on the road the sooner they will reach it. Fretting is all time wasted on the road.—*Exchange.*

#### OLE BULL'S BABYHOOD.

Ole Bull had an uncle who, in addition to being the publisher of the Bergens (Norway) first newspaper, was a good player on the violin as well. This Uncle Jens used to amuse himself with little Ole's extreme susceptibility to music. When he was three years old, the uncle often put him in the bass-viol case, and hired him with sweetmeats to stay there while he played. But the candy could not keep him quiet long; the eyes would kindle, and the little feet begin to keep time. Running out he would seize the yard-stick, and, with another small stick for a bow, attempt to imitate what his uncle had played.

Seeing the child play this rustic and soundless fiddle, his uncle bought him when he was five years old a violin, "as yellow as a lemon." He used to tell later how he felt carried up to the third heaven when his own little hand first brought out a tune from that yellow violin. He loved it and kissed it; it seemed to him so beautiful. To the surprise of the family, he played well on it from the first, though he had received no instruction. He would stand by his mother's knee while she turned the screws which would not yield to his little hand; and the tuning was not easily accomplished, since his ear made him very critical even at that age. His uncle taught him his notes, at the same time that he was learning his primer.—*Memoir of Ole Bull.*

It is not a good plan to have the white lawn and cambric dresses "done-up," as the phrase is, to lay away for the winter, for the expectation that they will look fresh and be ready for immediate wear in the spring will be disappointed. Of course they should not be put away dirty, but the starching and ironing may well be left till spring, only common calicoes should be starched and ironed before packing away.—*N.Y. Post.*



# "TIME WILL ROLL THE CLOUDS AWAY."

## SONG AND CHORUS.

Words and Music by

HARRY BIRCH.

Moderato.

The piano introduction consists of two staves of music in G major and 4/4 time. The melody is in the right hand, starting with a quarter note G, followed by a half note A, and then a quarter note B. The bass line is in the left hand, starting with a quarter note G, followed by a half note A, and then a quarter note B. The music is marked 'Moderato'.

Time will roll the clouds a - way, Annie, And the sun will shine a - gain..... Tho'  
 All the world seems now so cold, mother, Since they took thy form a - way..... Oh,  
 Oh, I nev - er shall for - get, mother, How you used to watch and pray..... That

The first line of the song features a vocal melody in the right hand and piano accompaniment in the left hand. The lyrics are written below the vocal line.

life it may not all be sun - shine, Neith - er will it all be rain..... Yes,  
 now my heart is near - ly bro - ken, Will the clouds ere roll a - way?..... I  
 we might meet a - gain in Heav - en, When life's clouds should roll a - way..... Yet

The second line of the song continues the vocal melody and piano accompaniment. The lyrics are written below the vocal line.

just be - fore the day 'tis dark - est, But the light will come a - gain..... No  
 have no one now left to love me, On - ly griev - ing life a - way..... Oh,  
 tho' the sky is dark a - bove me, Still must come a bright - er day..... And

The third line of the song concludes the vocal melody and piano accompaniment. The lyrics are written below the vocal line.

life it can not all be sun - shine, Nei ther can it all be rain.....  
 moth - er my poor heart is break - ing, Will the clouds no'er roll a - way.....  
 this fond hope shall cheer me moth - er, 'Till the clouds have roll'd a - way.....

CHORUS.—Refrain.

*Soprano*  
 An-nie dear,..... keep up cheer,..... In this life there's night as well as day,..... Time will  
*Alto*  
 Annie dear, keep up cheer, In this life there's night as well as day, well as day,  
*Tenor*  
 Annie dear, keep up cheer, In this life there's night as well as day, well as day,  
*Bass*

roll..... time will roll..... Time will roll the darkest clouds a - way.....  
 Time will roll, time will roll, Time will roll the darkest clouds a - way, clouds away.  
 Time will roll, time will roll, Time will roll the darkest clouds a - way, clouds away.

## YOUNG CANADA.

THE EXTRAORDINARY ADVENTURE  
OF A THREE-YEAR-OLD CHILD.

A three-year-old child in Morelead city, North Carolina, was brought here a month ago to recover from an attack of fever. One day a strolling Italian made his appearance with a large cluster of those red, bladder-like balloons. Major Hawkins, of Alabama, to amuse the child, tied a cord around her waist, and then gave her a toss of five or six feet in the air, and held out his hands for her return. "Great God! she is gone," cried the major, as he saw her rapidly going up, up, up, until she had passed the house-tops. Floating in the clouds with outstretched hands, the little child could be heard distinctly calling: "Mamma! mamma! mamma!" until her voice became drowned by the whistling of the winds.

"All to your boats!" shouted old Captain Dixou, "and never a son of a man turn back until that child is brought to its mammy!"

Minutes appeared as hours, and the babe was floating southeast like a kite, and would be out over the Atlantic in less than no time. Away went twenty or more well-manned boats amid the shouts of men and screams of women and children. These boats were joined by a like number from Beaufort, all of which kept as near under the little child in the cloud as possible. Mr. Charles J. Voorhees, of the Southern Express Company, with a party of gentlemen, were out taking a sail. Mr. Voorhees is one of the most expert riflemen in the country, and had on board his Smith & Wesson rifle.

"Bang!" went the rifle—but no change in position. Again, again and again—at the fifth shot one balloon disappeared, amid the shouts of the boatmen. At the eighth shot it became evident that the balloons could no longer carry the weight of the little floating child, as she was gradually descending, not in a straight line, but in a southeast direction, toward Harker's Island—but whether dead or alive none could tell. Down, down, down she comes, as gently as if handled by human hands, and to fall in a cradle of sand.

To land, to land! and all put to shore as fast as sails would propel the boats. Then began the race for the baby, and she had come down on a sand bank only a few hundred yards distant. With fear and trembling all ran up, Ben Piver in front. "Gentlemen," says he, "she's alive and kicking." There sat little Birdie, playing with a lot of shells, and as she was picked up she clung to a handful saying: "Dese sels for mamma."

At the wharf, after everything seemed safe, then little Birdie came the nearest of losing her life. Colonel Whitford, a man of generous impulses, seized the little child in his arms, and at a lightning speed started for its mother, who was then lying in an unconscious state. But before the kindhearted colonel had gone far, amid the dense crowd and confusion, he ran off the wharf into the water eight feet deep. Several jumped overboard and aided him in landing his prize. The child was none the worse for the ducking.

## LITTLE SHEPHERD DOGS.

The best of these dogs are worth \$200, or even more. One herder, whom we met at Cold Spring ranch, showed us a very pretty one that he would not sell for \$500. She had at that time four young puppies. The night we arrived we visited his camp, and were greatly interested in the little mother and her nursing babies. Amid those wild vast mountains, this little nest of motherly devotion and baby trust was very beautiful. While we were exclaiming, the assistant herder came to say that there were more than twenty sheep missing. Two male dogs, both larger than the little mother, were standing about, with their hands in their breeches, doing nothing.

But the herder said neither Tom nor Dick would find them. Flora must go. It was urged by the assistant that her foot was sore, she had been hard at work all day, was nearly worn out, and must suckle her puppies. The boss insisted that she must go. The sun was setting. There was no time to lose. Flora was called and told to hunt for lost sheep, while her master pointed to a great forest, through the edge of which they had passed on their way up. She raised her head, but seemed very loath to leave her babies. The boss called sharply to her. She rose, looking tired and low spirited, with head and tail down, and trotted off towards the forest. I said, "That is too bad."

"Oh, she'll be right back. She's lightning on stray sheep."

The next morning I went over to learn whether Flora found the strays. While we were speaking the sheep were returning, driven by the little dog, who did not raise her head or wag her tail even when spoken to, but crawled to her puppies and lay down by them, offering the little empty breasts. She had been out all night, and, while her hungry babies were tugging away, fell asleep. I have never seen anything so touching. So far as I was concerned, "there was not a dry eye in the house."

How often the scene comes back to me—the vast, gloomy forest, and that little creature, with her sore foot and her heart crying for her babies, limping and creeping about in the wild canyons all through the long, dark hours, finding and gathering in the lost sheep! —*Dio Lewis.*

## WHY SHOULD HE BE GRATEFUL?

"I must say it is discouraging to parents to see a child turn out as ungrateful as Bert Woodruff, so bound up as his mother has always been in him, and as much as she has done for his happiness. What presents she always bought for him on birthdays and at Christmas times! How she denied herself to furnish him the nicest clothes that came into Sunday school, and to give him the choicest lunches at the day school! 'They made all the other children envious. So it was away up to his manhood, and see how little he cares for her now!'"

"Poor Bert, and poor mother! She is but reaping as she has sowed. I fear she has no great claim upon him for gratitude."

"What, after all she has done?"

"He certainly could not be grateful for the ungoverned temper that makes him so unpopular among all his associates. A different course in childhood would have prevented great trouble for him and for others. Nor can he be very grateful for a digestion so impaired by rich, unsuitable food which he cried for in his childhood, but which now brings on him a thousand miseries. Added to it is an appetite formed on such a basis, while to gratify it produces a pain that to his passionate temper seems unbearable. 'I may thank you for this horrid dyspepsia,' I have heard him say, with bitterness, to his mother. He cannot be very grateful to her for his empty mind, which was the result of her weak yielding to his entreaties to stay at home whenever lessons were hard; nor for his unskilled hands, which were never taught any useful work by which they might earn their honest bread. But his lost opportunities of acquiring a noble character are the saddest grounds of complaint against his over-indulgent mother.

"Depend upon it, our children will not 'arise up and call us blessed' unless we have given them true reason for doing so. Where have you ever seen a boy brought up to industrious habits, with a well-informed mind and a sound heart in a healthy body, whose childhood was blessed with home love, who has proved ungrateful to the parents who trained him? The old promise does hold true yet, 'Train up a child in the way he should go, and when he is old he will not depart from it,' nor be ungrateful for it."

## INITIALS ON FRUIT.

Did you ever see a name printed on a growing apple, pear or peach? No? Well, if you wish to have that pleasure, this is the way to obtain it. While the fruit yet hangs green upon the tree, make up your mind which is the biggest and most promising specimen of all. Next, cut out from thin, tough paper, the initials of the name of your little brother or sister or chief crony, with round specks for dots after the letters, and the letters themselves plain and thick. Then paste these letters and dots on the side of the apple which is now turned to the sun, taking care not to loosen the fruit's hold upon its stem. As soon as the apple is ripe, take off the paper cuttings, which have shut out the reddening rays of the sun, having kept the fruit green just beneath them, so that the name or initials now show plainly. After that bring the owner of the initials to play near the tree, and say presently, "Why what are those queer marks on that apple up there?" You will find this quite a pleasant way to surprise the little ones; and, of course, you can print a short pet name as easily as initials.—*St. Nicholas.*

The stoutest timber stands on Norwegian rocks, where tempests rage, and long, hard winters reign. The muscles are seen most fully developed in the brawny arm that pries the blacksmith's hammer. Even so, the most vigorous and healthy piety is that which is the busiest, which has difficulties to battle with, and has its hands full of good works.



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