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THE MURRAIN, OR CATTLE PLAGUE.

Much alarm is felt in Great Britain at the progress of the "murrain," among the cattle of Northern Europe. Steps have been taken by the British Government to prevent the importation of hides or cattle from the infected countries. We cannot regard ourselves as safe from the disease in this country, but we are not aware that we can do any thing to prevent its approach. If it reaches the United States, it will be apt to visit us also. The following description of the disease is from the *London Times*:—

There are three complaints which, on the continent, are popularly called "Vieh-seuche" (cattle plagues). The first is a catarrhal affection of the lungs; the second a pulmonary complaint with typhoid symptoms; and the third a highly contagious typhus (*typhus bovom contagiosus*). In letters which have appeared in the *Times*, Mr. Redcliffe speaks of the pulmonary complaint with typhoid symptoms; Mr. Gamgee of the contagious typhus, which is the real cattle plague (Rinder pest,) or Murrain of the Steppe; and Dr. Greenhow of the "lung disease," which may mean either the simple catarrhal affection of the lungs or the pulmonary complaint with the typhoid symptoms. As it is doubtful which of the murrains is now raging in those countries from which cattle, hides, &c., have recently been exported to England, the distinctive symptoms of all three will now be described. The principal symptoms of simple catarrhal affection of the lungs are—first, shivering at the commencement of the malady; second, sadness and prostration of strength; third, the pulse is quicker than usual, and there is fever; fourth, the skin feels dry; fifth, the cough, which is first dry and hollow, and comes by fits and starts. After a lapse of four or five days the cough gets "loose," and there is a discharge of phlegm; a rattling noise is heard when the animal draws its breath, and a frothy mucous escapes from its nostrils when it allows its head to droop. It is only under unfavourable circumstances, such as immoderate excitement, a naturally bad constitution, or injurious treatment, that the catarrhal inflammation of the lungs ends fatally, but a chronic secretion of phlegm and asthmatic cough often remain for a considerable time after the animal is convalescent. The "lung disease," combined with typhus, may be divided into three periods. The symptoms of the first period, during which there is no fever, are—sadness and prostration of strength; secondly, drooping head and pendulous ears; thirdly, eyes fixed, without loss either of lustre or of colour (in vigorous animals the eyes are often red and fiery, but dry;) fourthly, the skin of the nostrils pale, and the inside of the mouth "slimy;" fifth, the temperature of the body low, with horns, ears, and feet cool; sixth, the skin dry and tense (stretched), the hair lustreless, rough, and bristly, and erected along the spine; seventh, breathing difficult. The first part sometimes lasts a fortnight or three weeks; the second, or feverish period, lasts three or four days. The symptoms

are those above described, with feverish movements. The diseased animal has first a shivering, considerable exacerbation in the evening, and remission of fever towards the middle of the day. After the cold or aguish fits are over, the reaction is much less violent than in other inflammatory complaints. Each paroxysm of fever is accompanied by an acceleration of the respiration, which is audible, and often accompanied by a moaning sound. The weakness and exhaustion of the animal are very great; the temperature of the ears, horns, and legs changes continually—now warm and now cold; the skin is dry and rough, and looks as if dust was strewn on it; the hair is erect, and the eyes, which are opened wide, are projecting, dry, shining, and fixed. The pupil is dilated; the nostrils are covered with slimy secretion, which the suffering animal frequently removes with his tongue; the teeth are close; the loins are so sensitive that the pressure of the hand cannot be borne without shrinking, and the pain in the chest increases. The animal lies down but seldom, and when it does so it is on the side on which the lung is affected. If both legs are diseased the animal rests on its breastbone, with its legs under its body, and its head and neck stretched out. The alvine secretion is often either entirely suppressed or very scanty. The urine is dark in colour and pungent in smell. During the third period, which commonly ends in death, the uneasiness and agitation of the animal are extreme. It continually changes its position, and draws back from the crib to the length of its tether. The eyes sink and become glazed, and the lids fall as if the animal were about to sleep; the horns, ears, and nose are cold: the mouth is filled with offensive phlegm and slaver, and an ill-coloured secretion flows from the nostrils. The animal gnashes its teeth, which are loose and shaky; the hair becomes more and more bristly, and the emaciation is rapid. At this period of the disease, the pulse is often above a 100 a minute. The real cattle plague, or, as it is called in Austria, the "*Loscr-Durra*," has four periods. During the first period, which begins about five days after the infection has taken place, the following symptoms are observable:—1. The animal is generally languid, its movements are heavy, its gait is tottering, and it is less sensible than usual to outward impressions; in other cases it bellows and beats the ground with its hoofs, and is unusually unruly and vicious. 2. The appetite is often much greater than usual, but after the animal has swallowed its food it appears inattentive to what is passing around, and hangs its head and ears. 3. When the animal rises from the earth it does not stretch itself, as healthy animals usually do, and instead of sinking its back it arches it. 4. The eye has more lustre than usual, and its vessels are slightly reddened. 5. Tremulous movements are perceptible in the skin, and the hair on some parts of it becomes rough. 6. After the fourth or fifth day the animal coughs at intervals, and often groans. 7. The animal licks its chaps less than usual. 8. No strong pressure with the hand can be borne, and the back immediately sinks if the loins are squeezed. 9. The "droppings" are dryer, and less furrowed than is usual. On the eighth day after the infection the plague is regularly declared. The symptoms are:—1. Aguish paroxysms, and often a twitching of the whole skin. 2. Bristling of the hair. 3. Trembling of the limbs, and particularly of the hind quarters. 4. During the paroxysm the animal is generally very uneasy; it stamps, holds up its head, and shakes it continually. The vigorous cattle are very violent in their movements, have a wild eye, snort and bellow, and devour their food greedily. The weak and aged beasts, which are less wild and unruly, shake their heads and grind their teeth. 5. The roots of the horns and the hanging ears are sometimes very hot and sometimes cool. 6. The chaps and muzzle are dry, the interior of the mouth is of a light red, and steaming hot, the gums swollen and spongy, and the incisors somewhat loose. The gums have frequently spots of a deep red. 7. The sensitiveness of the loins increase. 8. The skin is extremely tense. 9. The pulsation is accelerated. 10. A single (not continuous) violent, hollow, and convulsive cough, which is totally different from any other. 11. The rumination is incomplete and interrupted. 12. The alvine excretion is scanty, dark, sometimes almost black, parched, and deeply-furrowed. The discharge takes place very frequently. 13. The tail is either extended in a horizontal line or used to strike the sides of the animal, which continually looks around to its hind quarters. 14. The urine is of a high red colour. 15. It is frequently the case that the air bladders can be felt under the skin on the back and loins. 16. The fever increases in the evening, and becomes less violent in the morning. 17. The milk in cows diminishes, and in some cases is altogether dried up. During the third period, which begins on the ninth or tenth day from the infection, all the above-mentioned symptoms increase in violence. The animal is excessively weak and sad, stands at a distance from the crib, and hangs its head almost down to the ground. If the lungs

are much affected it lies down a great deal, but if not it remains on its legs. The emaciation is extreme. The eyes begin to run, and a clear white, visceous fluid flows from the nose. By degrees the tears thicken, and form a crust which half covers the eye; the discharge from the nose becomes cloudy and "glandery;" the tongue is flaccid, and the breath has a peculiar and almost putrid smell. The rumination ceases entirely. The alvine secretions are now watery, and are ejected, or rather squirted out, with great violence. The animal suffers greatly from tenesmus. If there is no diarrhoea, which is sometimes the case, the hind part of the body is greatly swollen. On the thirteenth or fourteenth day, when the complaint has reached the highest pitch, the fourth period begins. The animal can hardly keep on its legs, a thick ash-gray fluid runs from its glazed eyes, a corrosive secretion escapes from its nose, a thick phlegm fills its mouth, and the putrid exhalation becomes almost unbearable. The skin of the mouth and the gums is dried up, "and the tallow-like skin of the animal peels off in great flakes." The serous and even bloody alvine secretion is discharged almost without interruption; the head of the sufferer is continually twitched round to its hind quarters. Death generally ensues on or about the 17th day after the infection. The symptoms of the three different "murrains" have been given at considerable length, in order that those veterinary surgeons who have never had an opportunity of seeing cattle which were affected with either of them may be able to distinguish one disease from the other.

STUDY THE INSECTS.

Although a good deal of ridicule has been expended upon the Minister of Agriculture's attempts to catch the "Weevil" an insect, we believe, seldom seen in Canada; yet we hope the inquiries which have been set on foot by his prizes, may result in benefit to the agricultural public. A better method might have been adopted if the learned Minister had been acquainted, practically, with his subject. We hope the prize essay will soon appear, that we may have an opportunity of laying its "facts" before our readers. We have little faith in the remedies likely to be suggested by Mr. Vankoughnet's essayists. What is wanted *first*, is an accurate knowledge of the kinds of insects to be guarded against. To obtain this, a series of observations must be made in every county, if not in every township, of the Province. When we know the family or order to which the insect belongs, its habits &c., then we will be in a position to adopt remedies if any be practicable. A Dr. Sanborn, in a lecture recently delivered in the Representative's Hall, Boston, recommends the following:—

"For the diffusion of useful knowledge of insects he said that he had two plans to propose. The first was to have their *pictures taken* and shown up, so that all farmers and children should "know them like a book." He would have the most prominent ones taken in their three different stages from the egg, with that included, when practicable, with common and scientific names, and characteristics, &c., and published in a kind of text or handbook, rendered so cheap by legislative patronage as to be afforded in every farm house, so that every occupant on finding a new insect might find it there also, and know at once how to treat it.

The Doctor's next method was to have farmers preserve one specimen of all kinds of insects found on their farms during the season, and exhibit them at agricultural fairs, where competent committees should examine, label and illustrate to the assembled host of listeners each specimen, and award premiums according to merit."

We like the plan suggested by Dr. Sanborn. It would afford both amusement and practical instruction to a farmer, if he would spend a little time in collecting specimens of insects and studying their manners and customs, and such collections would make a useful exhibition at cattle shows.

BREEDING DOMESTIC ANIMALS.

There are some curious truths portrayed in the following interesting article, and while they are novel in character, they are equally fearless, and certainly worthy of close observation. We find the following in the *Ohio Farmer* :—

1. The question of breeding *in-and-in* is one of very great importance. It is known how much diversity of opinion exists in regard to it; with, I think, a general drift of public sentiment against it. What I have to say is the result of experience and very careful consideration of all the facts and principles involved; so far as I was possessed of them. Let it go as part of the means, by which others may make up a more reliable judgment.

2. There are two kinds of *in-and-in* breeding, which are, in my opinion, to be carefully distinguished from each other. That which is up and down; and that which is collateral. And then that which is collateral, is liable to produce very different results, according as the relationship is complete, or only partial. And again, that which is up-and-down, is liable to produce very different results, whether it is direct or immediate, or whether a generation or two intervenes. I will add, that far more depends upon the particular race of animals under question, where this matter of *in-and-in* breeding is to be decided, than is generally supposed.

3. A full brother and sister are just twice as much akin to each other, as either of them is, to either of its parents. They have the very same blood; whereas, each of them has only one-half of the blood of each parent. The breeding of a full brother and sister together, is therefore, twice as close in-breeding, as to breed either of them to either of their parents. The half-brother and sister, have exactly as much common blood, as the parent and issue; and cousins in the first degree, precisely as much as the grand parent and its grand issue. The great grandsire, or dam of an animal, has only one-eighth part of common blood with it; which is the same common blood as exists between cousins in the second degree. Many breeders would carefully avoid the former cross, while they would not think the common blood in the latter, worth considering.

4. It is at once curious and important to consider what an immense mixture of blood takes place in a few generations. An animal has one sire only; in the second degree two; in the third degree four; in the fourth degree eight; in the fifth degree sixteen. Here are five descents—the smallest number any one is content with, as proof of a pure pedigree. But in these five descents we have no less than 32 ancestors, male and female, whose blood is mingled in the veins of the single animal we are interested in. And if we will add a few more crosses, how rapid is the increase; in the sixth degree alone thirty-ancestors of both sexes;* in the seventh degree, sixty-four ancestors of both sexes; in the eighth degree, one hundred and twenty-eight; in the ninth degree, two hundred and fifty six; in the tenth degree, five hundred and twelve. That is, at this tenth degree, which you will see so pompously insisted on, in multitudes of pedigrees, an animal can count 1054 ancestors; with the most remote of whom, he has the 2128th part of common blood! How is it possible for us to know any thing *special* of the personal peculiarities of the fiftieth part of these 1054 ancestors? How can we guess which one of them it may be, after which our animal is 'taken?' Let us be modest and reasonable about things involved in so much uncertainty, the moment we pass beyond great and general laws.

5. We are to remember, however, that this widening and ascending process must necessarily have an end, but in its last half must exactly reverse its first half. Take a bull descended from the bull Hubback, or a stallion descended from the Godolphin Arabian the two ends of these pedigrees will terminate on the points of two cones, of which the bases are united in the middle. You trace up to the widest number of ancestors; then you narrow in, and concentrate at last upon the original parent—say Hubback, or the Godolphin. Examine this carefully, and observe what an immensity of *in-and-in* was there was, in widening from the original starting point; and then how much more, in narrowing back to our animal. Consider what a vast proportion of Durham cattle and pure pedigrees, trace back to Hubback—what an immense mass of high bred horses, tra

* This must refer to one sex only—either sire or dam.—Ed. *Ohio Farmer*.

back to the Godolphin. These are but illustrations; but they illustrate facts and principles of the very highest importance; and these cases are used only because they are notorious and unquestionable.

6. You may cut off the ears and tails of ten thousand rams, and yet after that, every one of them will beget lambs, with full ears and long tails. But if a ram chanced to be born without ears and without a tail, he is nearly certain to beget *some lambs* with these same peculiarities. And these of his get, are still more certain to beget others with these peculiarities; and the certainty increases with every generation. At length, you *establish* that variety of sheep. *Occasionally*, a tail and ears may come forth; just as *occasionally*, a black nose, in the Durham. It is in this manner that only *congenital* peculiarities are capable of being re-produced and perpetuated; and it is perfectly obvious that the more thoroughly you adhere to such as have the peculiarity, the more certain you are to establish and perpetuate it.

7. To a certain extent, therefore, all *pure* breeding is in-and-in breeding. If you step over a certain circle, within which all are of the same blood, you get back at one step, nearly to the point where some one started, perhaps a thousand years ago, with the primeval individual, with the accidental natural peculiarity, which now marks such, or such a race. Inside of this circle, within which you must confine yourself, in all pure breeding, there are many other smaller circles, all of which become more intensely affiliated to certain purities, or certain peculiarities; the innermost one of which, is the very closest in and-in breeding. It is the very same principle which runs all through. The only real question is, as to the wisest method of its application. Pure breeding, and in-and-in breeding, are the same thing.

8. The experience of the most successful breeders in all countries, has continually verified those results, which the fair theoretical analysis of the facts of the case establishes; and incontestably proves the clamor against in-and-in breeding to be in effect tantamount to a clamor against all thorough breeding.

In the first place, let us rest satisfied that beyond a doubt, our animal is half-blooded of his father, and the other half of his mother; and therefore, let us be perfectly certain who they are, and what they are; for half his blood is quite another thing, from the thousandth part of his blood. And in the next place, if thus produced from a father and a mother, that suited us—and if he or she also suits us—let us rest assured that we run no serious risk of being unsuited by pressing these suitable things a little further, watching as we go. The sire and dam of *Renick*, were full brother and sister; the closest possible. If all is well, we have thus intensified all the qualities we have obtained. Don't let it much quite so near; but don't fear. They say your stock will become barren. In more than thirty years, I never raised a barren cow, that was not a Free-Martin; and I have a cow at present that brought me four fine calves, at two births, in less than one year, and raised them all.

AGRICOLA.

A FRENCH STEAM-PLOW.—In Scheidtman's *Landwirthschaftlicher Anzeiger* ("Agricultural Advertiser,") a paragraph appears respecting a new steam-plow of French invention. To the question whether for tillage and draining by means of the steam engine, the English, after extensive and costly efforts, have given a practical solution, or whether their neighbor, their rivals in agriculture or art, the French, answer remains to be given. Lately a "steam-plow and drainage company" has suddenly appeared in Paris, which issues a circular containing the following paragraph:—"What the English have not brought to perfection, has existed in France for several years—at first imperfect, which, through experiments and sacrifices, has been perfected. It is constructed by brothers Barrat, and is called *la piocheuse* ('the pick-axer')—a machine which, from description, may be supposed to do its duty with a series of revolving or descending stocks. The machine is a locomotive, which carries itself over the soil, and digs it up to the depth of from 15 to 20 centimetres. It has no resemblance to a plow, and does its work better than any plow heretofore constructed. This solution of an important problem has cost the brothers Barrat much time and money; but they have gained their object, for they have just founded a company to carry out their invention. The capital is 100 million of francs, in 2,000 shares of 500 francs (\$100) each.

FARM-YARD MANURE—ECONOMY IN MANAGEMENT.

Let our farmers, who own their soil, read the following, from the *London Farmer's Magazine*, and then decide if methods which would warrant tenant farmers in outlays for improvements, may not suggest what should be done by those who cultivate their own farms. Our back volumes give many articles on the management of farm-yard manures, and we hope the following will cause them to be read.—ED.

Upon a careful investigation, we safely assert that 20 per cent. of ordinary farm-yard manure is wasted. An examination of ten farm-homesteads consecutively taken, has fully established this supposition. In six of these, the whole of the water from the roofs of the buildings fell directly into the yards. In two instances, the buildings were supplied partially with water-shoots, but these were in such imperfect order as to be nearly useless; and in neither of the other two cases, did they effectually answer the purpose for which they had been put up. Where the yards were of large dimensions, pools of liquid manure were found standing full to the edge, and which, after becoming filled, ran over into the nearest pond or ditch in a continuous stream of black liquid. No attempt had ever been made to carry it away in that state—no tanks having been formed for its reception.

In most instances, sufficient litter was at hand to render the yards tolerably comfortable for the cattle, although in rainy seasons this appeared almost impossible; so that the manure became subjected to continuous wastings for weeks together.

It is too much the fashion to look about for improvements, and forget that the first necessity for them exists at home. Year after year passes away regardless of consequences and thus manure sufficient for the annual supply of the farm is lost once in every five years, and in some instances in a far less space of time. It has ever been thus, and will probably continue to be so, unless tenants can be awakened to the importance of the question; and this, if left to themselves to correct, would probably even then never take place. Whenever this subject has been individually adverted to, the answer is invariably, "My landlord will not do anything." The same observation applies to the improvement of buildings, to drainage, and to every other point of recent introduction. Unless, perhaps, in the case of some few spirited individuals, things remain as they have done, and will probably continue to do so until the expiration of their occupation & lives,

The inquirer will probably ask, How can it be so? whose interest is it to set about this and why is it not carried out? Here, again we stumble; the law existing between landlord and tenant is the chief obstacle. It is manifestly the landlord's interest to supply his farm with suitable and properly-constructed buildings, and to see that they are constructed upon the best principle for insuring the economy of the manure. He takes care to restrict his tenant from selling off his farm any of the hay, straw, or roots, yearly, from the bad construction of the premises alone, as much manure becomes wasted as would be equivalent to what a moiety of the hay, under proper management would have produced.

If landlords could understand the depreciation that gradually takes place upon farms where little live stock is kept, they might soon be enabled to appreciate this question. Information must be acquired by observing the progressive improvement that follows upon good management, with suitable home-stalls for making the best of the manure. I have seen the produce doubled, and even trebled in seven years, under good management when due encouragement has been given; and we know of no investment profitable to a tenant, as that expended in the erection or improvement of properly-constructed buildings. Covered farm-yards may by some be thought too expensive, though undoubtedly the best of all; and where other good buildings exist, they may judiciously combined with them at a moderate expense. It is stated that on this farm, ten, Mr. Cook, of Semer, Suffolk, has been most successful. But in absence of such a plan, another may be adopted; sufficient open sheds might be erected and so placed to render great assistance under the general arrangement for carrying away the manure from the buildings, especially when thatch predominates as the covering. The cost will be found trifling comparatively with the benefit to be derived, and from our experi-

we know that upon farms of from 200 to 500 acres, it might be well executed at from twenty to thirty pounds.

Another obstacle to the proper manufacture of manure, is the great extent of the yards. Wherever this is the case they should be reduced, by the erection of fences to a proper size, and be so divided as to be available for each kind of stock. Where placed upon a regularly-inclined plane surface, fences with brick foundations should be put up, and the soil raised at one part and lowered at another, so as to bring them upon a level, or as near thereto as can possibly be effected. Of all descriptions of farm-yards, those having an abrupt inclination in one direction are the worst to deal with, and are more subject to losses from the effects of heavy rains than those of any other description. Although not easily remedied, by carefully disposing the walls and placing tanks in proper positions, little loss need be sustained; and, indeed, in almost every case that has come under our notice, we have found that from £50 to £100 judiciously laid out will effect a great deal, and in most instances all that is required.

Why this is not carried out may be readily answered. Each party, as landlord and tenant, imagines that it is the place of the other to put it into execution; and thus, partly from obstinacy and partly to save themselves the expense, it is never performed. It would be, however, very reasonable for a landlord to say to his tenant, "I perceive that your manure is annually wasted, to the great injury of yourself and my farm, and to prevent which I am willing to meet you in the expense of the improvements." Or, if in a position to take all the outlay upon himself, he might make the improvement, and charge six per cent. by way of increased rent, and this he might invariably venture to do whenever the farm changed tenants.

The question is too important to be lost sight of; and we hope that these remarks may keep the question prominently before our readers. As we have already stated, the amount of good would be immense, whilst under the most disadvantageous circumstances the outlay necessary to obtain it, would be trifling in proportion with the benefit to be derived.

BRIMSTONE FOR CROWS.

The *Maine Farmer*, thus discourseth on the subject of scare-crows:—

The scare crow season is at hand. In the course of the coming thirty days what lots of images will start up in our corn fields. The human figure will be portrayed in all sorts of postures, costumes and colors,—some will be headless and some will be hatless, some with coats a world too large, and some with no coats at all, and yet they will all be armed with something with which to kill the crow. They may die "*a tarfing*" as Sam Slick says, for we can see no other way by which they can affect them in the least. In addition to the old clothes statuary which will throng the corn fields, we shall see the results of a great deal of Yankee ingenuity. Some fields will be surrounded with yarn enough to make stockings for half a dozen barefooted beggars. Some will have strips of cedar or bass-wood bark strung like telegraph wires from pole to pole. Poles will also be placed around on which will hang by a string, ever turning and ever twisting old bottles, old coffee pots, strips of tin and such like "*paraphernalia*," all of which will please the sight as well as tickle the fancy of all the crows in the neighborhood. All of them as they fly down to regale themselves with the sweet kernels at the bottom of the springing corn will no doubt look upon them as very curious but exceedingly harmless.

In addition to all these, some recommend one thing and some another. One method is, soak corn in New England rum, and lay it in the field, and thus the crows who eat it become drunk, and easily become a prey like all other drunkards to those who furnish the liquor. We think this is demoralizing the crows too bad.

We like the method recommended by Mr. S. Mitchell, of Cameron, N. Y., who gives notice in the last number of the *Genesee Farmer*, that after trying all the Yankee tricks and dosing the crows with ratsbane without any effect, he has found that a pound of sulphur mixed with plaster and ashes; and a handful scattered on to the corn as it peeps out of the ground will be sufficient to protect an acre from their ravages. We presume the reason of this is that by the heat and action of the ashes, the sulphur becomes changed so as to throw out sulphurous fumes which give the crows a hint of the doom of all thieves, and they quit.

VEGETATION IN THE ARCTIC REGIONS.

The first flowers of summer, that were found under the snow by Dr. Kane, are thus spoken of in his account of his last expedition to the Polar seas:

Another walk on shore (June 11th) showed me the andromeda in flower, and the saxifrage and carices green under the dried tufts of last year. This rapidly maturing vegetation is of curious interest. The andromeda tertragona had advanced rapidly towards fructification without a corresponding development of either stalk or leaflet. In fact, all the heaths—and there were three species around our harbour—had a thoroughly morland and stunted aspect. Instead of the graceful growth which should characterize them, they showed only a low scrubby sod or turf, yet studded with flowers. The spots from which I gathered them were well infiltrated with melted snows, and the rocks enclosed them so as to aid the solar heat by reverberation. Here, too, silene and cerathium, as well as the characteristic flower-growths of the latter summer, the poppy, and sorrel and saxifrage, were already recognisable.

Few of us at home can realize the protecting value of this warm coverlet of snow.—No eider down in the cradle of an infant is tucked in more kindly than the sleeping-dress of winter about this feeble flower-life. The first warm snows of August and September falling on a thickly bleached carpet of grasses, heaths and willows, enshrine the flowery growths which nestle round them in a non-conducting air chamber; and, as each successive snow increases the thickness of the cover, we have, before the intense cold of Winter sets in, a light cellular bed covered by drift, six, eight, or ten feet deep, in which the plant retains its vitality. The frozen subsoil does not encroach upon this narrow zone of vegetation. I have found in mid-winter, in this high latitude of 79°, the surface so nearly moist as to be friable to the touch; and upon the ice-floes commencing with a surface temperature of 30° below zero, I found at two feet deep a temperature of 8° below, at four feet 2° above, and at eight feet 26° above. This was on the largest of a range of east and west hummock-drifts in the open way off Cape Stafford. The glacier with which we became so familiar with afterwards at Eiah, yields an uninterrupted stream throughout the year.

My experiments prove that the conducting power of the snow is proportioned to its compression by winds, rain, drifts and congelation. The early spring and late fall and summer snows are more cellular and less condensed, than the nearly impalpable powder of winter. The drifts, therefore, that accumulate during nine months of the year, are dispersed in well-defined layers of different density. We have first the warm cellular snows of Fall, which surround the plant, next the fine impacted snow-dust of Winter, and above these the later humid deposits of the Spring.

It is interesting to observe the effects of this disposition of layers upon the safety of the vegetable growths below them. These, at least in the earlier summer, occupy the inclined slopes that face the sun, and the several strata of snow take of course the same inclination. The consequence is that as the upper snow is dissipated by the early thawings, and sinks upon the more compact layer below, it is to a great extent arrested, and runs off like rain from a slope of clay. The plant reposes thus in its cellular bed, guarded from the rush of waters, and protected too from the nightly frosts by the ice roof above it.

SHARPENING EDGED TOOLS.—It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water, to which has been added one twentieth of its weight of muriatic or sulphuric acid, then lightly wipe it off, and after a few hours set it on a hone. The acid here supplies the place of a whetstone by corroding the whole surface uniformly, so that nothing further than a smooth polish is necessary. The process never injures good blades, while badly hardened ones are frequently improved by it, although the cause of such improvement remains unexplained. Of late this process has been applied to many other cutting implements. The workman at the beginning of his noon spell or when he leaves off in the evening, moistens the blades of his tools with water acidified as above, the cost of which is almost nothing. This saves the consumption of time and labour in whetting, which moreover speedily wears on the blades. The mode of sharpening here indicated would be found especially advantageous for scythes and sickles.—*Timbs' "Year-Book of Facts," 1857, p. 49.*

EXPORTATION OF STOCK TO CANADA.

The *Thetis*, John Blair, master, sailed from Annan Waterfoot, on the 13th instant, for Quebec, and carries out a goodly number of live stock for Western Canada. She has on board a stallion, a draught mare, and a Shetland pony, 12 cattle, including 2 bulls, and about 40 sheep of the Leicester and Cotswold breeds; She has 2 setters and 2 sheep dogs, a number of fowls; several agricultural implements, such as carts, turnip-drills and cutters, and a few passengers in charge of the stock. Part of the stock was purchased in Yorkshire, Gloucestershire, and Cumberland, and a considerable portion is from Dumfriesshire. The stallion—a fine one-year black horse—was purchased from Mr. Johnston, Petherhill, Cumberland, and is considered to be as good a horse as has yet gone out to Canada. The filly was supplied by Mr. James Beattie, of Newbie House, Annan, who also furnished a Galloway heifer by his late celebrated "Mosstrooper," a splendid Cotswold ram and three gimmers, and two Leicester rams and four gimmers, from his prize stock, a cross from Mr. Sandy's best blood. The Cotswold ram—a three-horn—was bred by Mr. Robinson, Leekby Palace, Yorkshire, and has taken first prizes at Wetherby, Kelso, and other places. Mr. Syme, Redkirk, supplies three short-horn heifers from his well known first-rate stock. Some of the stock is for Mr. Letty, of Western Canada, but the greater portion is for the Messrs. Miller, of Pickering and Markham, who went out to Canada from the neighbourhood of Annan, a number of years since. Messrs. Miller's stock is in charge of Mr. Simon Beattie, (a nephew of Mr. Beattie Newbie,) by whom it was also selected; the Yorkshire portion chiefly from the well known stock of Messrs. Hannan and Simpson. From the latter gentleman, he carries out, at a cost of about £60, a pure bred Leicester ram, "Yorkshire Champion," which has won several first prizes, beating rams from the stocks of the most celebrated breeders in Europe.—*Dumfries' Courier*, April 21st, 1857.

CURE FOR INFLAMMATORY RHEUMATISM.

A correspondent of one of our agricultural exchanges, who has suffered from this terrible affliction, gives the following as a certain cure. It looks to be worth trying :

First rid the system of *costiveness*. This plague is frequently the *origin*, and almost always an attendant upon inflammatory rheumatism. It may be easily cured. A thorough vegetable cathartic at the outset, and a pill or two each night following on retiring to rest, will open the bowels: and if the person is kept warm and clean, the disease generally wears off soon. Ayer's, Moffat's, or Dr. S. S. Fitch's Cathartic Pills—the last best—are good for such a cure.

Should the rheumatism seem disposed to hang on somewhat after the costiveness is removed, it may be summarily ejected in the following manner: Set the patient in a low chair, and cover him—chair and all—closely, with a good thick bed quilt, leaving a breathing place for the mouth and nostrils. Under the chair place a spider or iron basin filled with *rum*, which set on fire. If it make too great a heat for the patient to bear, check it by sliding a board over it. Keep it a-going till the patient is thoroughly heated and as wet as a drowned rat. The bed, by the side of which this *bath* is taken, should meantime be thoroughly warmed, and the patient removed to it from the chair, well covered up and tucked in, and allowed to swelter it out. Inflammatory rheumatism will take its departure, and if the proper precautions are afterwards observed, the places which now know it will know it no more forever.

Keep the body *warm always* by comfortable clothing—flannel next the skin—keep clean by bathing—avoid chills and damps, and wet or cold feet. Above all, keep off the great enemy—*costiveness*. Should it threaten, take one, two, or three pills at night on retiring—just enough to loosen, not to physic. Eat plenty of good wholesome food—not knick-knacks, and you will come out all right. I had a most horrible experience with inflammatory rheumatism, many times should have died of sheer agony, had not my pains been allayed by morphine. After suffering most awfully, losing much valuable time, and been dosed and drugged, I was finally *cured* by the above simple and inexpensive method; and for seven years haven't had a *touch* of the disorder, and don't fear I ever shall.

P. S. The spirit bath should *never* be used till some days after all costiveness is removed.

PRESERVING POTATOES.

At a recent meeting of the New York Farmer's Club, a Mr. Starbuck described a machine for making potatoe meal. He said "that a machine capable of reducing 200 bushels per day, will cost \$1,200, and that the operation is very simple, and that the expense will not exceed seven cents a bushel. The tubers must be carefully assorted and washed before boiling or steaming. They are cooked without peeling, and then put in a hopper, from which they are sent up on a disc, when the potato is crushed, and the skins combed out. The inside falls upon a table, where it is operated upon by heated air. Apples can be dried by the same process, and so can several other vegetables. He is sanguine that the plan will cheapen food for city consumption, for it will enable growers at a great distance to preserve and send their crops to market. It requires about three cords of wood to prepare 200 bushels of potatoes.

At the same meeting, the following remarks were made on the subject of preserving, cooking, &c.:

"Solon Robinson,—If possible, a potato never should see light. It should be taken direct from the dark cell where it grows to a dark cell for preservation, and if possible, always kept in the dark and at an even temperature until it is taken out to put in the pot. I have often noticed in dark cellars that the potatoes that kept the best, are those under the spout where they were dumped from the cart, and partly covered with dirt.

The Chairman confirmed the view advanced, that potatoes are preserved best in the dark.

Dr. Smith,—I have often observed in Lancashire, England, with what assiduous care the cottagers—many of whom are very dependent upon their little crop of potatoes—cover the potatoes as soon as possible after they are dug. It is not to keep them from freezing, but to keep them from the light, as these people well know that nothing is more injurious, particularly if the sun is shining hot upon them when taken from the ground.

Prof. Nash.—The common practice of farmers leaving potatoes on the ground in a hot October sun, is one of the most injurious things that could be done to the crop. Some of them are half cooked, and all are injured by light and heat.

Mr. Bergen said he had often been astonished at the quantity of potatoes consumed in this city. Why, Sir, the more we raise, the more we may, at increased profit. We raise now fifty times as many as formerly, and get three or four times as much per bushel. There must certainly be something very valuable in potatoes as food, or there would not be so many eaten.

Solon Robinson,—No, Sir, that is not the reason potatoes are so largely consumed in this city. I will tell you why the people eat so many potatoes, at a time too, when they are the dearest of all kinds of food. It is because nine-tenths of those we employ to cook our food don't know how to cook anything else but potatoes; and that particular being that the proverb says sends us cooks, must be pretty well aware that they don't know how to cook them, and consequently we commit a deal of sin in finding fault with the potatoes, when the principal fault is chargeable to the stupid dolts who have had the care and consequent spoiling of these valuable fruits of the earth. I certainly should look upon it as a great boon, if we could once more see the day that we could sit down to a meal of mealy potatoes.

Dr. Smith,—Do people ever think of the immense waste of potatoes as they are treated in this city? Let me tell you how potatoes are cooked in Lancashire. They are peeled first and boiled gently till nearly soft, and then the water is poured off and all the steam evaporated, when they are poured into a dish and a few slices of bacon laid on top and brought hot to the table, where they are eaten with a relish, and for good reason—they are truly good. Such people do not eat much bread. The potatoes are so dry and mealy that they are an excellent substitute for bread, and very unlike the miserable waxy things we have here."

NEW METHOD OF MAKING BUTTER.

One of the butter makers of New York State, to whom was awarded a prize by the State Society last fall, thus describes his method. It may suggest hints worth adoption:—

This butter is made by my improved method, whereby every drop of water or buttermilk is taken out of it by *solar evaporation*. In this process I claim to have so perfected butter-making that butter may be kept sweet several years, without the rancid odor caused by the decomposition of water and buttermilk that pervades most of the butter at the present time. The following is an outline of my improved process:

Firstly—In churning the cream, enough ice should be put into it occasionally to make the butter come in crumbs; pour off the buttermilk and wash the butter several times in soft ice water, till there ceases to be any milky appearance; during the process of washing, should there be a solid lump of butter large enough to contain a cell of fluid, that lump should be crushed, while in the water, and broken into a corresponding size of the other crumbs.

Lastly—Wash it in brine made of rock salt, saltpeter, *soft* water and ice; skim the crumbs out of the brine with a skimmer; drain each skimmer-full well; spread the butter on zinc plates—(in cool weather wooden tables will do instead of the zinc;) in very hot weather these zinc plates should be set on ice water, while the crumbs are spread out thinly; place the butter in (the middle of) a milk room; open all the windows, and a current of air passing over it, will evaporate all the moisture in less than an hour, in warm weather, if the room is suitably ventilated; care should be taken not to have any other moisture in the room, like water on the floor, or wet dairy furniture in the room. When the butter is perfectly dry, pack it down immediately, and let there be no more working of it than is necessary to pack it solid in a jar or tub. This will secure, unbroken the crystals of butter, and its original flavour. As near as I can ascertain, there will not exceed one ounce of salt to ten pounds of butter, by the process of brine salting. But as a general thing, butter made for hospitals, rich gouty invalids and sick persons, the salting process should be omitted altogether. Butter made in this way, (without salt,) if sealed in cans or jars and placed in an atmosphere or chamber of bin-oxide of nitrogen, I believe will keep any number of years.

I have also an improved butter-tub, which I hoped to be able to present to you, but sickness has prevented me this year. It is a butter tub (turned) in halves, opening in the middle, like a match box, (circular tenon,) made of ordinary porous wood—kila dried, then placed in an air chamber, and after exhausting the air inject a solution of stone, which, by atmospheric pressure, will penetrate the pores of the wood, and becomes petrified and coated with stone, without increasing the weight of the package over 6 or 8 per cent.; the tub will be air tight, and possess all the qualities of a stone jar.

NEW TURKEY.

The Queen has presented to the Zoological Society a large and brilliantly colored species of turkey (*Meleagris ocellata*) which has been known for many years to inhabit the vicinity of the Lake Peten, near the confines of the provinces of Vera Paz, and Belize, Central America; but so rare is even the skin of the bird in this country, that a stuffed specimen is valued by dealers at about forty guineas. The late Earl of Derby, who was most zealous in his endeavours to improve the breeds of birds likely to be serviceable for food, went to the expense of sending collectors out to Honduras, almost solely with the view of procuring living specimens of this turkey for his aviary at Knowsley. For nearly twenty years his lordship looked forward to the gratification of possessing the species, but all attempts to bring it alive to England failed. This, we are happy to announce, has at length been accomplished by Mr. Skinner, the well known collector of orchideous plants of Guatemala, assisted by Captain Wilson, of West India steam packet Parana. Mrs. Stevenson, the lady of H. M. Superintendent of Belize, possessed a fine cock ocellated turkey and two hens, which she was desirous of presenting to the Queen, and Mr. Skinner undertook the delicate task of bringing them to England. They are taller, thinner, and more erect than the common turkey, with the plumage marked with iridescent peacock-like eyes, the legs being pink, and the head of a peculiar soft gray-blue, crested with clear, bright orange warts. They are to be seen at the Society's Gardens, in the Regent's park.—*Timbs' "Far-book of Facts,"* 1857, p. 221.

TOMATOES.

A correspondent of the *Genesee Farmer* gives his mode of growing tomatoes. He forwards his plants in a hot bed or green house, and grows them in pots until they are a foot or a foot and a half high, turning them out about the second week in May. He plants them three feet apart in rows. When planted he drives down a few stakes, six or eight feet apart, leaving them about four feet high the whole length of the rows, and nailing a strip of wood all along the tops, and tying one or two lower down the stakes, to make a trellis. The ground should be dug deep and made rich with manure, and a spoonful of guano mixed with the soil around each root. We quote:—

“When they have grown sufficiently long to tie to the trellis, I select two or three of the longest shoots and tie them loosely to the trellis cutting away all other small laterals which may grow on the main branches. I let these main branches grow until they have come in flower and set the first bunch of fruit; then I pinch out the top, one joint above the fruit, leaving the leaf entire. I then allow it to go on again until it has flowered and set another bunch of fruit, when the top is pinched out one leaf above the bunch, the same as the first, and so on of all the rest, taking care to cut all the laterals which may grow on the main branches down to the axles of the leaves, as often as they are produced, but leaving the leaves entire. If any one will take this little extra trouble, he will be amply repaid and absolutely astonished at the immense clusters of fine large tomatoes he will have. If planted in a favourable situation, they will ripen at least as early as those grown in any other way out of doors, and frequently three days or a week earlier. When ripe they will hang longer on the vines without decaying. The situation can hardly be too sunny. Deep, light, loamy soil suits them best.”

LABELS FOR FRUIT TREES.

The following simple but ingenious mode of preserving labels, may be worth trying by those cultivating several varieties of fruits:—

“Purchase by the gross small vials, short-necked, and about two inches long; write the number of trees, name of varieties, and direction of trees in the row, on a piece of parchment rolled round a small piece of wood, or a piece of shingle written on with a black lead pencil. Cut with four sides in the following manner: on one side write Twenty; next side, Flemish, next, Beauty, next, South—which reads thus; 20 Flemish Beauty, South to next label. The pieces of shingle must be cut the length and width of the vial, and then shove them in through the neck of the vial, and cork tightly and cut the cork off even with the glass mouth, and putty the whole well and smoothly over. Suspend them from a limb of the tree with copper wire twisted round the neck of the vial and the limb of the tree. You will then have a label which will give you no trouble in future to find the varieties of fruit you have in cultivation. If a tree dies in the row, you can easily replace it by finding the name of variety from the label contained in the vial on the first tree in the row, and thus the number will always continue complete.”

THE DIOSCOREA IN GERMANY.—Messrs. Editors,—In regard to the *dioscorea batatas* and its success here, I have made inquiries in various places, and always with the same results. Prof. Smith of Heidelberg, Prof. of Botany and director of the Botanical Gardens, says that the experiments in both the scientific and horticultural departments of the gardens, produced no such brilliant results as those that were heralded in France, in fact nothing approaching them. He was inclined to think that the enthusiasm which generally attends new discoveries in France, if it had not magnified the *Dioscorea*, had magnified its uses. He thought it would not prove of any considerable practical value in Germany.

Prof. Von Martius of this city, one of the most celebrated botanists of Europe, tells me of the same want of success in the botanical gardens here, and is equally skeptical of the great practical value of the new stranger.

As far as I have heard, this has been the case also in other botanical gardens of Germany.—*Munich Bavaria.—Cor. Country Gentleman.*

PULVERIZE THE SOIL.

Voelcker, Professor of agricultural chemistry to the West of England Society, Exeter, thus writes as to pulverization of soil:—

“The efficacy of a manure or the practical effect of which it is capable, is greatly influenced by the mechanical condition of the land. Land varies very much in this respect, and, as a matter of course, the same manures act differently on land of different descriptions. I may illustrate this by referring to experiments I have made on land attached to Cirencester College, where I used superphosphate on a piece of ground which did not yield so much as another piece where none had been used; but I took the precaution to try the manure in a third place, and here the yield was three times as much as on that which had not been manured. The fact is that on clay land superphosphates are of no use unless the land is properly pulverised. Some farmers imagine that by using in the land the best artificial manures, they do not require so much labour, or any additional labour. There can be no greater mistake; for the best artificial manures often fail, more or less, entirely for want of proper pulverisation of the soil. It is of the greatest consequence that the land on which artificial manures are used should be in a high state of subdivision. Artificial manures can only be used with advantage by farmers who have improved agricultural implements and methods of tillage, and paid a great deal more of attention to the mechanical condition of the land than many farmers of the old school. If a farmer has not sufficient skill to manage a farm on improved principles throughout, the mere use of artificials will help him comparatively little, and he will perhaps do better to stick to farm-yard manure under such circumstances.”

TOBACCO DUST FOR INSECTS.—It is not a little singular that the very plant the genus *Homo* should take such a special liking to, is also the plant to destroy a vast number of insects. Yet so it is, and it is quite probable that tobacco alone, in one form or another, is sufficient to destroy a large quantity of the insects injurious to vegetation, if it can only be well applied. For our present purpose it requires to be dust, which can be got at the tobacconist's for a dollar or two per barrel, if applied for some time before the season of wanting it. Generally speaking, it is a good deal too coarse, and therein consists its failure as often applied. What is wanting is some kind of a mill to reduce it to powder, but in the absence of this a substitute consists in drying it quite crisp, and pounding or rubbing it small. A sieve is then needed, of a very fine mesh, to apply it to the plants, choosing the morning for doing it, putting no more on than is necessary to lay a fine dust on the foliage. While this is on, no fly will attack them. But as a strong wind or shower will scatter it all off, the dose must be repeated until the plants are out of danger. Herein consists the advantage of using just enough for the purpose, as the continued application in quantity is injurious to the plants. While in the seed bed, the trouble of application is not much, and we hesitate not to say, that any person can secure plants by following the above method.

AN INDIAN CORN HARVESTER.—A model of a machine that has been tested, for cutting Indian corn, was exhibited by Mr. Coates, of Philadelphia, by which eight acres a day can be cut and left in gavels, by a man and two horses. The machine appears as well contrived for the purpose for which it is designed as the mowers or reapers for their respective purposes. It will greatly facilitate the business of raising corn at the West, and lighten a branch of the labor that requires men with strong arms.

THE AMERICAN ELK DOMESTICATED.—Mr. Lorenzo Stratton, of Little Valley, has been experimenting, for a few years past, with a view to test the practicability of domesticating the Elk; and for this purpose enclosed a tract of very hilly land, well wooded, for ranging and browsing. His animals are so amiable that he has driven several of them to the three last Fairs of Cattaraugus county, without difficulty, where they attracted great attention. The success attending Mr. Stratton's experiments, thus far, certainly argues well for more extended efforts.

REAPERS AND MOWERS.

Notwithstanding defects of construction, badness of material, ignorance of workmen, and the difficulties of stumps, stones and water-furrows, the REAPER and the MOWER have established themselves as permanent "institutions." No farmer who cultivates over 75 acres, and whose fields present a suitable surface, can afford to do without one of these machines at the present price of labour.

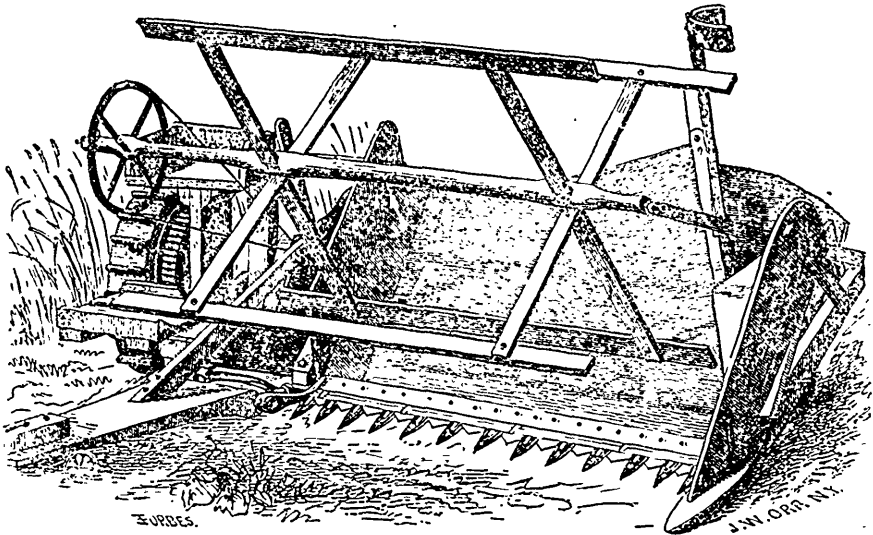
We are often asked by correspondents and others, what kind of machine is *best*? There are now so many varieties and so many "improvements," that we find it very difficult to give an opinion. The *best* in form, may, by imperfect construction, be made inferior to the worst. In truth we have seen machines with all the "latest improvements," that, for any other purpose than to *look at*, were far inferior to Hussey's machine of ten years ago.

The *first* point to make sure of, is that the machine be well made; and hence we would recommend the reader to apply to an established manufacturer. Many persons have undertaken to construct these machines without any experience or knowledge, and their first year's work has invariably failed to give satisfaction. A reaper is a complicated machine, and requires both ingenuity and practical skill to adjust all its parts, so that they will work smoothly and endure the strain of the harvest field.

The tendency of improvement for the last two or three years, has been towards *combination* or duality. It seems to be thought that if the same machine can be made to *reap* and *mow*, and perform both operations well, there will be both economy and convenience in using it. We have watched the experiments in this direction with a good deal of interest, and the conclusion we have arrived at is this: upon a large farm, say 100 acres and upwards under cultivation, we would employ two machines, a reaper and a mower separately. On a smaller farm, growing from 15 to 20 acres of wheat annually, a good combined machine on the principle of Manny's, will answer every purpose. There is nothing in the cutting apparatus that disqualifies the mower for the wheat field; a slow motion of the knife can be permitted in the latter case, which saves wear and tear. But the chief point of difference is the breadth of the cut. It is found impossible to cut more than 5 or 5½ feet of heavy grass without exposing the machine to a greater strain than is desirable, or overtaxing the team. "Side-draft," the great evil, increases with the length of the cutter-bar, and is at least a third greater in mowing than in reaping. A reaper will cut 7 feet without difficulty. To make a machine that can be *adjusted* to these two breadths of cut, is equivalent to making *two* machines, and therefore the aim has been to find a medium point, not too wide for mowing, and not too narrow for reaping. Messrs. Paterson of Belleville, think they have so far improved Manny's machine, that it will substantially meet both wants.—They certainly "get up" an excellent looking machine. The improvement which enables them to add to the length of the cutter, without increasing the side-draft injuriously, is a wheel under the tongue.

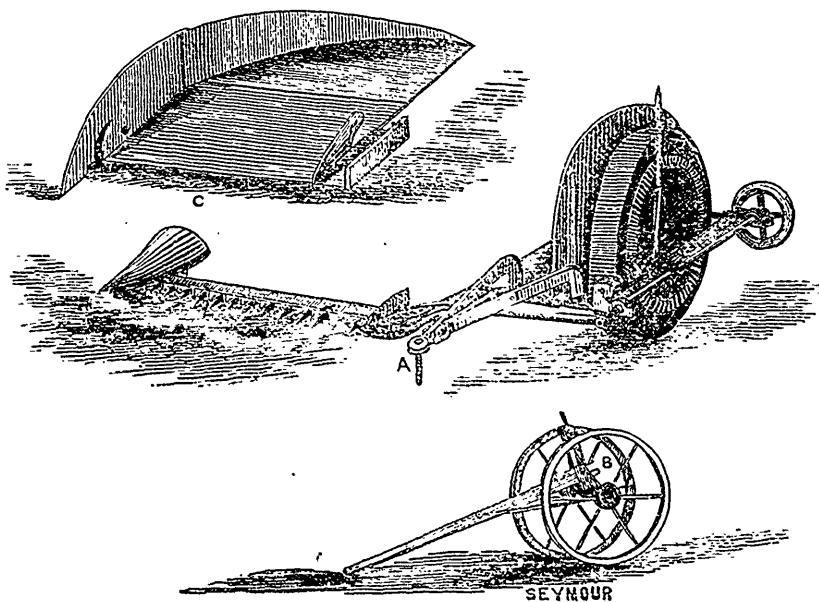
In the following engraving there is an attempt to show the position of the wheel spoken of, but the cut is imperfect. The wheel should be made larger, and in a somewhat different position. It is alleged that this wheel takes the weight of the tongue off the horse's neck, an evil that required to be remedied in this machine—and also lessens the side-draft. The Messrs. Paterson obtained the first prize for their machine at Kingston, and also the prize offered by the President of the Association, for the best labour-saving implement. Their terms will be found on our advertising page, and we believe they are men who will perform what they promise.

The following cut shows the Manny machine as arranged for reaping.



The cut below represents a machine manufactured by Darling and Atchison, of Thornhill. It is made of iron throughout, and is adapted to both mowing and reaping. The peculiar feature of this new candidate for public favour, is, we believe, the wheels attached to the tongue, on which the front part of the machine rests. There is an adjustable contrivance, by which the cutter-bar is kept in the proper position, while the wheels referred to are passing over obstructions. The platform, which is detached in the engraving, is readily connected with the rear part of the machine, and converts the Mower into a Reaper. This machine is very highly spoken of by several respectable farmers on Yonge Street who have used it. It appears to be very substantially made, but as we have not seen it in operation, we cannot speak more positively as to its performance.

NEW IRON MOWER AND REAPER.



AGRICULTURE IN JAPAN.

Commodore Perry's book on Japan, gives us the following in regard to agriculture in that country:—

"Of animals to assist in culture, the Japanese have the horse, ox, and a large species of buffalo, which they train to draw carts and carry heavy loads on the back. They plough with both the ox and cow. Of milk and butter they make no use. When they cannot use cattle to plough, as on the steep sides of hills, men are substituted; and sometimes the plough is laid aside, and all the labour in preparing the earth is done by hand. Generally, their soil is rather poor, but by means of the immense labour they bestow upon it, by irrigation, and especially by the use of manures, which they understand well, they make very large crops.

Their chief grain is rice, of which they are said to produce the best in all Asia. They also make barley and wheat. The first is used in feeding cattle; the other is not much valued, and is chiefly used for cakes and soy. This last is made by fermenting, under ground, wheat and a peculiar kind of bean and salt.

Next to rice in importance is the tea-plant. Immense quantities of it are produced, for its use is universal. Besides the plantations devoted to it, the hedges on the farms are all of the tea-plant. Siebold says the finer kinds require great care and skill in their cultivation. The plantations are situated, as far as they conveniently can be, from all other crops, and from human habitations, lest the delicacy of the tea should be impaired by smoke or any other impurity. They manure the plants with dried anchovies, and with the juice pressed out of mustard seed. The harvesting is a process of great nicety. Dr. Siebold thinks that the green and black tea are from the same plant, and differ only in mode of preparation, though others have said the plants differ themselves. Neither, however, is ever dried on copper, both are dried on an iron pan. In horticulture, the Japanese are very skillful, raising radishes weighing from fifty to sixty pounds."

PROLIFIC WHEAT.—A correspondent of a New York Journal writing from Paris, gives the following as a singular discovery:—

In 1852, a few grains of wheat were discovered in the tombs of some mummies found in the south of France, supposed to have been two thousand years old. These grains of Egyptian wheat were planted, and produced, to the surprise of every one, 1,200 to 1! The Government took the affair in hand, and consigned the management of it to the farmers of the Government farm at Rambouillet. The result has been most astonishing. Each year the product has been magnified in such an immense proportion over the preceding year, that the Minister of Agriculture is now enabled to distribute over France a large quantity of this wheat to each of the departments gratuitously, with instructions from the Government farm as to the best mode of cultivation. At a late meeting of the Academy of Sciences, the Baron De Menne Ville presented several stocks of this regenerated Egyptian wheat which were six feet high and bore each several fine ears. A French lady explained in my hearing the other day, this great multiplying power of the Egyptian wheat by the long root it had had! It is a great and important discovery for the study of agriculturists.

COMPOST.—Lime is a substance which it is an error to use with composts in which we have barn-yard manure; it is equally an error to mix lime with any compound rich in ammonia. The tendency of lime in all composts is to promote decomposition, and to waste nitrogen, which escapes by union with hydrogen under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring-substances.—*Morton's Practical Agriculture.*

ADVICE TO YOUNG FARMERS.—Allow me to say to young farmers especially, let us be studious and inquisitive, as well as laborious; let us be simple and frugal in our habits; avoid needless expenditures; leave fine dress, and fast horses, and showy dwellings to those who really need such things to recommend them. Let us remember that for health and substantial wealth, for rare opportunities for self-improvement, for long life and real independence, the farmer's is the best business in the world.—*Goldthwaite.*

TRANSPLANTING CABBAGES.—Often when cabbage plants are removed from the beds where they were raised to the garden square, a large portion die, and in a few days the gardener must re-set the square with other plants, and this has occurred so frequently, that most persons have concluded that it is inevitable. Many will doubt when we tell them that it is wholly their fault that every plant does not live. Yet such is the fact. It results from two errors which are easily avoided. One is, that in drawing the plants, the roots are broken, and the other from keeping them out of the ground too long, until it becomes more or less dry. The gardener instead of having the land prepared fully before he takes up the plant, and going through the whole process of drawing and planting in a few minutes, often draws the plants, then lays off the ground, and then drops every plant where it is to be put, before he begins to set the first one, and by the time he gets to the last they are hopelessly injured. Sometimes, we have seen such instances, the plants are lying thus on the ground exposed to the heat of the sun for hours, before they are planted. If they grew afterwards, it would be a very great wonder. The plan which I have pursued for many years seems to be far more reasonable, and certainly more successful in this region. We prepare the land thoroughly first of all, and then lay it off before a plant is drawn from the bed. Some hours before the plants are drawn, water is applied freely to the beds in which the plants are growing, to soften the earth, so that the plants can be taken without breaking the roots. The plants are then carefully drawn, and taken at once to the spots where they are to be planted. There, meantime, a mud puddle has been made, by scraping away the soil, and pouring down water, and mixing the soil therewith until a tolerably thick mud has been formed, into which the root of each plant is immersed. A considerable portion of mud will adhere to the root, and then as quickly as possible they are planted. The result of this mode of planting is, that a plant rarely ever fails to grow off at once and flourish vigorously, and unless the worms or insects attack the plants, we never have occasion to re-set cabbage plants.

BATH CHEESE.—This summer delicacy, readily made in any country, is retailed in London, England, at 2s. 6d. per lb. The following is the recipe:—To one gallon of new milk add two quarts of cold spring water, rennet sufficient to turn it (not hard): take it gently out with the skimming dish and lay it in the vat until full; put a weight upon it, and apply dry cloths for a day or two when turned out on a plate with another over it, and turned occasionally. They are ready in about a fortnight. Sometimes they are kept between vine leaves after they are turned out of the vats, and if so these should be changed twice a day.

HOW TRUE!—In a recent number of *Howey's Magazine*, the remark is made that "few complete and thoroughly made gardens and grounds are to be found. We see everywhere in the rapid increase of wealth and population in our suburban towns, fine buildings, erected almost by magic, in the highest style of architectural art, and finished without regard to expense. These costly dwellings, as well as those of more humble pretensions, meet our eyes in every direction, and would command our highest admiration, but for one defect. They are wanting in the elegant surroundings which should belong to every suburban residence; the lawn, the ornamental grounds, the fruit garden, or even the little parterree, have been entirely neglected, and they stand bleak and alone, an ostentatious display of wealth without taste, on the one hand, or the appearance of a depleted purse without the means of doing anything more, on the other."

PROFITS OF CARROT RAISING.—As many as sixteen hundred bushels of carrots to the acre, have in some instances, been realized; but such a yield is only to be expected, of course, where the ground is in a very high degree of cultivation, and where great care and attention are bestowed on the crop. But supposing one-half of this large amount can be produced, and allowing the roots to possess a value equal to potatoes, for feeding swine and other domestic animals, the balance is found to be considerably in favour of the former. The labour of tending an acre of carrots or parsnips, is, it is true, considerably greater than that involved in the cultivation of the same extent in potatoes; yet this is not all loss.

Roses, remember, require a rich bed and the richer it is, the finer and greater the number of flowers. Poultry and pigeon dung are good, so is well-rotted cow or horse manure. A thick layer around the stem, slightly covered, will soon show itself in extra fine flowers.

GRAPE CULTURE.

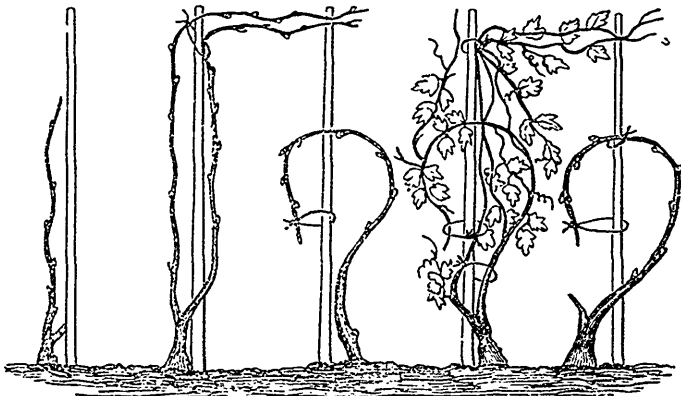
A correspondent asks us to publish "plain, common sense instructions for planting and cultivating grape vines, so that a plain farmer may enjoy the luxury of a bunch of grapes now and then, without paying too dear for the whistle."

We shall try to gratify our correspondent. Although professional gardeners make out that there is a good deal of mystery in grape-culture, we believe the process is simple and easy enough. It merely requires *attention*; we speak of out-door, or garden cultivation. The finest varieties of the grape can only be grown in this country, under *glass*, and therefore are not within the reach of our correspondent on his terms, viz., "without paying too dear for the whistie." There are, however, two or three varieties of very good quality, that with proper care and a little shelter from north winds and winter frosts, will grow vigorously, and ripen their fruit in any part of Upper Canada.

Our nurserymen have many kinds of the grape on their lists for open-air cultivation, but we are not quite sure that the *Isabella* and *Catawba* do not comprise substantially the good qualities of all. The only complaint against them seems to be, they will not in all situations and all seasons at the North, ripen before the frost. The *Clinton* is two weeks earlier than the *Isabella*, but is not near so large or good. The *Catawba* is still later than the *Isabella*, and requires a warm soil and sheltered location to perfect its fruit, and then it is rich and truly delicious.

We are in great want of a new seedling grape equal or superior to the *Isabella* and *Catawba*, and decidedly two or three weeks earlier. We often have such announced, but they do not always prove satisfactory.

Now for the "instructions." We have before us some five or six authorities on the subject, with a variety of plans for *trellis*, training &c. We give below a cut exhibiting a simple mode, which is probably as good as any.



Presuming that you obtain your plants from the nursery, the first step is to prepare your border, and here we shall take the liberty of quoting the directions of a recent writer of high authority on such subjects:—

"The preparation of this vine border is an important process in grape culture in private gardens. It should be made from four to six feet wide, and two to three feet deep, and be composed of a liberal mixture of limestone, or old plaster or mortar, bones, leather-parings, hair, ashes, and strong, well rotted manure, well mixed with the soil.

A calcareous soil or gravelly loam is best for the grape, and should be well drained and warm. It is somewhat difficult in wet clay lands to raise good grapes, unless the vine border is carefully prepared. Soap-suds and wash from the house is favourable for the grape, and we have known some plants succeed well that were placed immediately under the spout of the sink. For vineyard culture, the nearer the process approximates to the one described above by trenching and enriching, the better.

Every plant should be thoroughly pruned down to two or three leading shoots, and after these cover the trellis or stakes as extensively as you wish, then the rule in pruning is, every year from December to first of February, fearlessly to cut back all of the last year's growth, so far as to leave only two eyes. It is also desirable, after the grapes are beginning to fill in June, to pinch back the terminal bud of every branch, and thus check its growth and throw back its sap, to ripen the fruit and mature the wood. By pinching back, we mean, to pinch off with the thumb-nail and fore-finger the end of every bearing branch, and we then cut out all the superfluous little shoots and suckers.

The vine is composed the greater part of potash, lime and carbonic acid, and therefore a frequent application of lime and soap-suds is beneficial. It has been asserted that tartaric acid is a valuable specific for the fruit, but of this we have no personal knowledge.

The grape should always be grown in the warmest and most sheltered situation, so that the fruit may ripen well before frost. The south side of a house, or southern slope of a hill-side, should be chosen.

In some places the mildew is troublesome to the grape, but sulphur sprinkled liberally on its first appearance, will usually check it at once. There is also a kind of snail slug which often destroys the leaves in a few weeks. These can easily be destroyed by showing the vines two or three times with strong soap-suds from the wash."

We may observe that the above is from an American, not a European authority, and is therefore adapted to this country. We believe we have sufficiently complied with the wishes of our correspondent.

AUSTRALIAN LOCUSTS.—Lieut. Du Cane, R.E., informed the Council of the Royal Agricultural Society at a late meeting, that "a portion of the colony of Western Australia had for some years been regularly visited, at the time the crops were rising, by swarms of locusts, which eat up everything green on the face of the country; attacking and utterly destroying the potato crops, the fruit-trees, vines, and in fact everything; that these locusts appeared to have become regular inhabitants of the colony, not making a sudden appearance and an equally sudden disappearance, as in some instances; and that they threatened to overspread the whole colony, for rivers did not, as might have been expected, stop their progress." The Council having referred that communication to Mr. Curtis, the highest entomological authority of this country, for the favour of his opinion, the following communication was received from him:—"I regret that I can give your correspondent no satisfactory information regarding the destruction of locusts. Even if there were any remedies, it is doubtful whether they could be successfully employed, as in all probability the species of locusts in Australia differ very essentially in their economy from those of Europe. In my forthcoming report for the Journal, which I am happy to say is now completed, I have briefly alluded to the locusts of this country; and the only remedy appears to be the employment of poultry during the autumn and winter, which search for and feed upon the eggs of the grasshoppers." The Council voted their best thanks to Mr. Curtis for the favour of this communication.

PIG MEASLES.—The disease of which we speak, is the result of an animal parasite, which infects all parts of the body, and which is believed to be an imperfect condition of the tape-worm. It is sufficient for us to say, that the disease is to be prevented rather than cured, and that it will not occur except in case of "inattention to the cleanliness of the pig's food and drink."

THE CATTLE MURRAIN.

We publish in another place, a description of the disease or diseases, which have lately proved so destructive to the cattle in certain parts of northern Europe. The subject is one of considerable interest even here, for in the first place, if the plague extends over Europe, it will in all probability reach this country also, and even if we escape its ravages, the price of beef will no doubt be greatly enhanced by the demand for exportation, consequent upon the destruction of cattle in the grazing countries of the old world. Looking at either of these results, we think our farmers should consider whether it would not be a wise policy to pay a little more attention to the increase of their herds. The mania for wheat-growing has proved as fatal to the bovine race in Canada, as the murrain in Lithuania. We are not disposed to recommend the general abandonment of grain culture, with a view to cattle-breeding and grazing. Canadian farmers cannot successfully compete with their more favourably located rivals in the prairie districts of the 'Great West' in the latter business, while they can easily beat those rivals in the former. We only deprecate the preponderance of grain over cattle, in our system of farming, on what, if we were speaking of the public health, we would call sanitary grounds. Ours is an *unhealthy* system of agriculture, as many farmers are beginning to find out. We must keep more stock in our farm-yards, whether it pays directly or not. Even in England, the value of cattle to the farmer, as "machines for manufacturing manure," overrides every other consideration. A recent English writer on this subject says:—

"The farmer fattens cattle not as we citizens in our self-complacent and patronizing moods are apt to imagine, when we read the long figures of arrivals at the markets every week, for the mere sake of feeding us and getting a fortune out of our carnivorous propensities, but coupled with a very different object. The modern farmer looks upon a beast as a machine for manufacturing manure. This in some shape he must have.—The corn crops, on which his main prosperity depends, crave it imperatively in some shape, and nothing now known answers so well as the home-made product. Guano, superphosphates, and the thousand-and-one delusive compounds puffed with all the quackery of pseudo-science, are not to be trusted; and until modern chemistry produces something better than has yet been forthcoming, the farmer must trust to himself and his beasts."

If this be so in England where so many artificial manures are available; where the grazing season is so much longer; where cattle command so high a price for breeding purposes, with how much more truth may it be said in our case?

The English Government have taken precautions to prevent the introduction of the cattle plague into the British Isles. An order in Council was published on April 2nd., prohibiting the importation of cattle, or of horns, hoofs, or skins, from those territories of Russia, Prussia, or Mecklenburg Schwerin, which lie on the Gulf of Finland, or between the gulf and the city of Lubeck. It cannot be said that this prohibition is too stringent. Certainly an order which limits the supply of human food is a strong measure, but the case admitted neither of compromise nor delay. It was necessary to exclude rigidly and at once anything which could bring on the country so terrible a calamity as a mortality among the animals used for food. The disease which necessitated these precautions has ravaged Silesia, Mecklenburg, and

part of Holstein for two or three years, and has lately assumed a type so deadly as to rouse the apprehension of the principal Governments of the Continent. The Governments of France, Prussia, and some of the smaller German States have already made regulations for the exclusion of the tainted cattle, or any part of their carcases. The insular position of Great Britain gives a greater chance of immunity, but does not free them from the necessity of taking some precautions.

The Earl of Clarendon has sent to the Royal Agricultural Society, the following communication on the subject:—

“Foreign Office, April 29th, 1857.

“Sir,—I am directed by the Earl of Clarendon to transmit to you, to be laid before the Council of the Royal Agricultural Society, a copy of a despatch from her Majesty’s Minister at St. Petersburg, relative to the cattle disease.—I am, Sir, your most obedient humble servant,

E. HAMMOND.

J. Hudson, Esq.

St. Petersburg, April 18, 1857.

My Lord,—With reference to your lordship’s despatch, No. 235, of the 8th inst., enclosing the Order in Council prohibiting the importation of cattle from Russian ports in the Baltic and Gulf of Finland, on account of the apprehended murrain, I have the honour to state that, as far as I can learn, the infectious disorder which prevails in this country amongst cattle, is confined to Lithuania and the provinces bordering upon Poland. I am assured that it has never appeared in Finland, or in the northern and eastern parts of European Russia. I am, of course, unable to vouch for the accuracy of this information, but I certainly have never heard any mention of a murrain except in the provinces I have mentioned. A considerable quantity of hides which were about to be shipped to England will, I am told, be stopped by the prohibition. I have communicated a copy of the *Gazette* to M. Tolstoy, and have requested that steps may be taken to make the prohibition publicly known.—I have, &c.,

WODEHOUSE.”

The Earl of Clarendon.

From this it would appear that the extent of the calamity has been exaggerated, but the Government will probably not relax its order upon the mere want of information thus confessed by its Minister. Agents have been sent to the countries where the disease is said to prevail, to ascertain the truth, and to report it officially. The *London Times* very justly remarks:—

“This disease, no doubt, has its cause and its cure, like those of human kind. The words ‘infectious’ and ‘contagious,’ are very loosely used. It is probable that this malady is propagated chiefly where the state of the animals is generally unhealthy, or where, through want of proper care, or through insufficient food or shelter, their physical condition is weak. We may further assume that a disease of this sort is epidemic, and likely to break out in more than one place, without any intercommunication. Both these considerations point to the necessity of increased care in the treatment of cattle at home. It is not impossible that the disease arises from natural causes, and cannot be averted solely by quarantine regulations. No doubt, infection from abroad would cause it to assume a still more deadly form, but yet the seed may be already sown among us, and favourable circumstances may cause it to take the dimensions of a great national calamity. Our agriculturists and breeders should therefore take their precautions in time. While Government is watching the out-posts, they should do all that science can suggest to stop the progress of the disease, or remove the causes which may lead to its appearance. If the crowding of cattle sheds and the want of ventilation and cleanliness have a tendency to encourage the epidemic, as certainly seems likely enough, no time should be lost in remedying defects which may be productive of such incalculable evil.”

APPLES.—I had occasion to overhaul some apples the other day. They were picked in the same orchard, and on the same day, and were put away the same day; and some in flour barrels and some in lime barrels. Those in the flour barrels were much decayed, while those in the lime barrels were sound, and but very few showed any signs of decay. The apples were of the same variety.

This observation may prove of service.—*New Jersey Farmer.*

DAIRY UTENSILS IN THE CHEESE MANUFACTURE FOR 25 Cows.—Three milking pails, to hold 5 gallons; cheese tub, 55 gallons; sieve ladder; straining cloth placed over this and sieve in the ladder over centre of tub; a triple knife, or wire sieve, or beater to break the curd when first coagulated; bowl and shallow wooden dish for lading whey out of cheese tub; sieve to strain whey through; vats to receive the whey to stand in till it is skimmed and goes out to the pigs. These vats are best made of lead or tin, as when scoured they are more easily kept sweet from the sourness of the whey. Cheese vats, turned, of Elm timber; board to place on top of vats when in the cheese press. The first press to be about 3 cwt. for eight cheeses to make 1 cwt. It is not well to press too heavily at first, as the fat is thereby pressed from the cheese when the whey is warm and runs freely. After the first 24 hours leverage presses are very good. Cheese cloths placed in the vats before the curd is put in them: these cloths of a coarse canvas material made for the purpose—they should be changed twice in the 24 hours, once a day afterwards, when the cheese must be rubbed with salt, and kept in the presses five or six days, or longer if it is thick cheese. A bench for salting cheese on, and sharp knife to pare off any uneven edges, though they ought not to appear in well filled vats on well made cheese. Pans to hold the milk to stand in before skimming the cream for butter may be either of tin, glass or brown line ware lined with white ware; these last seem the best as least expensive, as from their thickness the milk cools more gradually in these than in glass or tin, those to hold 2 gallons and 6 quarts being put to stand in each, to be skimmed once in 12 or 24 hours, according to various plans. As to churns, the American for a small dairy is as good as any, the barrel churn for a large one.

KITCHEN GARDEN.—Weed artichokes; clean asparagus beds; plant basil; continue to plant beans for successions; thin beets, &c.; plant borecole, broccoli, cabbage and cap-sicum; thin early cabbage, and earth up early celery. If you have cucumbers in pots in frames, plant them out; sow endive; thin leeks; transplant lettuce; sow mint, and thin early parsnips; sow peas, and attend to those previously sown.

Melons raised in hot-beds should go out early this month, as well as Lima beans, early squashes, tomatoes, egg-plants and other culinaries started in hot beds; sow white radishes; plant sage; thin salsify; plant out savoy; gather seeds as ripe; sow spinach, and thin former sowings; keep ground well tilled between rows throughout the garden: attend to thinning generally; plant out tomatoes; sow turnip cabbage; keep down the weeds. All the early lettuce and radish ground being now cleared off, may be used for beets and carrots which will give better late crops than if planted earlier.

Dust pulverized quick lime, unleached ashes, tobacco dust, &c., over plants annoyed or subject to be annoyed by insects. Plant okra; cut and dry herbs in flower, selecting for this purpose a clear dry day; water culiflowers, and break down the leaves over those near maturity, to prevent their buttoning too early.

CREAM CHEESE.—Take a quart of cream, or, if not desired very rich, add thereto one pint of new milk; warm it in hot water till it is about the heat of milk from the cow, add a small quantity of rennet (a table spoonful is sufficient), let it stand till thick, then break it slightly with a spoon, and place it in the frame in which you have previously put a fine canvass cloth; press it slightly with a weight; let it stand a few hours, then put a finer cloth in the frame; a little powdered salt may be put over the cloth. It will be fit for use in a day or two.

TO SECURE LATERAL BRANCHES.—When a tree has been stripped of its branches, you may wish to restore them. If so, take this mode, which has been used with success:—Cut out a large piece of bark on the side on which you wish the new limbs to grow; do not cut out the bark quite to the wood; in due time, the space will be covered with a thin, tender bark; into this tender bark, you may insert buds, just as in a small twig in a nursery; thus the bud will grow to a branch, and the symmetry of the tree may be improved, and the fruit may be changed, too.

FEMALE PURITY.—All the influence which women enjoy in society—their right to the exercise of that maternal care which forms the first and most indelible species of education—the wholesome restraint which they possess over the passions of mankind—their power of protecting us when young, and cheering us when old—depends so entirely upon their personal purity, and the charm which it casts around them, that to insinuate a doubt of its real value is wilfully to remove the broadest corner-stone on which civil society rest, with all its benefits and all its comforts.

CULTURE OF THE TURNIP.

The following remarks on the varieties of the turnip, and the best modes of cultivating, are from an American exchange, and may be useful to those who are not fully acquainted with the subject:—

“It is scarcely practicable to carry on a correct and profitable system of husbandry, without the introduction of green and root crops; among which turnips and potatoes deserve special attention, as being among the most valuable products of the farm: not only as a suitable change in the rotation, but also highly esteemed for their usefulness, in cattle feeding, and for domestic purposes.

Turnips are a most important root for the fattening of cattle; although by some, the turnip crop is considered merely as a catch crop, (the meaning of which is, that the crop is produced upon land that would otherwise have remained a naked fallow through the season, in order that the soil might be properly tilled by repeated ploughings, freed from root weeds, manured, and prepared for the succeeding grain crop,) it therefore may be considered an economical crop, as the land during the cultivation and growth of the turnips, receives the requisite preparation for the grain crop which is to follow, with the exception of a single ploughing after the turnips are removed from the land.

Turnips may be divided into three general classes; the round or globe shaped, the depressed or Norfolk, and the fusiform or oblong. They are likewise sometimes distinguished by their colour, as the white, the yellow, and the purple-topped: but these classes have, however, many intermediate varieties that have been obtained by crossing the sorts. The white, with the green and purple-topped, are early kinds, and grow well on a lightish soil, and produce a crop with a less quantity of manure than the others. These kinds, do not, however, last so long as the others, as they are more apt to run to seed, or to be injured by the frosts. The Aberdeen yellow is a kind between the globe and the ruta бага or Swedish turnip, and is much hardier than the globe; it is also later in coming to maturity, is better able to withstand the frost, and generally yields a good crop. The Swedish turnip is however, much the hardiest, and will resist the frost to a far greater extent than any other variety, and will retain its juices to a much later period in the spring. The Swedish turnip, however, requires a full dressing of manure to produce a good crop. This species of turnip will, while the plants are young, bear transplanting much better than the others, consequently any blank spaces in the crop can be filled up, provided they are transplanted as early in the hoeing season as practicable.

The time of sowing the different varieties varies; much depending on the season and climate; those that are most solid and nutritive require the longest time to grow, and should therefore be sown soonest; and on this account the Swedish should be sown pretty early.

The quantity of seed should always be liberal, for by sowing too little the crop sometimes fails; for when the plants are attacked by insects, and are thin on the ground the crop will be destroyed; whereas if the plants are numerous, they grow quicker, and are more likely to withstand the ravages of insects, or a droughty season.

Turnips being looked upon as a complete fallow crop, they are on this account introduced into that part of the rotation which closes one course, and commences another.—The land for turnips ought to be well cultivated, with sufficient ploughings and harrowings to bring it to a fine tilth, and made perfectly free from root weeds. For drill sowing, the ground is then formed into ridgelets by the plough, and the manure spread evenly along in the rows. Well rotted dung is of the greatest importance, and in quantity from ten to twenty tons per acre, as the state of the land and the variety of the turnip may require. No crop is better adapted than turnips, for any other description of manure than farm-yard dung; as ashes, rape dust, oil cake, bone dust, and numerous other manures, are calculated to produce crops of this vegetable. The seed should be drill sown, and be deposited as near the manure as possible, and it is only by drill sowing that this can be attained. It is highly important in dry weather, that the preparing the land, applying the manure, earthing it in, and sowing the seed should follow each

other as rapidly as possible, so that the seed may have the benefit of all the available moisture.

After the plants are up and in rough leaf near two inches high, the scarifier or horse-hoe should be at work, to destroy the weeds between the drill rows pretty close to the plants; after which the hand hoeing and thinning should immediately proceed, leaving the plants from eight to ten inches apart in the rows. This distance is generally sufficient for allowing the turnips to grow to a useful size. After the plants are pretty well grown, and the thinning, hoeing, and weeding completed, the rows may be lightly earthed up by the double mouldboard plough.

The globe and early kinds of turnips, should be consumed in the early part of the winter, as they do not bear much frost, and if even they are securely stored, they are apt to lose their juices, and to suffer some decay; and when long stored they do not answer for feeding purposes so well as the more hardy kinds.

Turnips that are to be stored must have the tap roots and the leaves cut off, to keep the bulbs clean and prevent overheating. A good root cellar is of course much the best place for stowing turnips during the winter; but where there is no cellar, they may be stored in long heaps of about five feet wide at the bottom, four or five feet high—the top being finished in a sharp ridge; and the whole covered with straw, and outside of that, a thick covering of earth. Or they can be piled up under a shed, and covered up plentifully with straw. The Swedish turnip is superior to the white in nutritive matter, in the proportion of 20 to 13.

Turnips, where they can be successfully cultivated, and where there is convenience for storing them, are unquestionably one of the most profitable products of the farm for fattening cattle; and are also of great benefit to store stock. In all cases where turnips are produced on a farm, they are the means of greatly increasing the quantity and improving the quality of the manure made, and thereby assist greatly in keeping the land in a productive condition. Oats or barley generally follow the turnip crop."

PLASTER OF PARIS TO KILL LICE.

The use of Plaster of Paris on a farm is becoming more and more varied. The last new use to which it has been put, is that of destroying lice on cattle. We can say nothing from experience in regard to its use or its efficacy for this purpose.

If it should prove to be sure in its application, it is a valuable discovery. Allen Palmer in a communication to the *Country Gentleman*, last spring says:—Plaster as a remedy for lice on cattle or horses, is among the best I have ever known, used by applying it dry, rubbing it thoroughly into the hair of the animal. I purchased a colt 10 months old that was afflicted with that kind of vermin; I made an application of plaster and kept him away from my other stock about two weeks, and found no more trouble or difficulty with the insects.

In numerous cases, it has been used to destroy this pest to beasts, and I have never known the necessity of a second application.

CUCUMBER BUGS.—Dr. Heckerman, writes,—“Most gardeners are very much annoyed by these bugs, which prey alike upon the cucumber, melon, pumpkin and squash—the latter being its favorite. Various plans have been devised for their protection, such as soot, &c. A method which I have practised with nearly entire success, is to form a mixture of equal parts of finely ground black pepper and wheat flour, and dust the plants while the dew is upon them with this mixture, using an ordinary flour or pepper box. It is a fact generally known, that black pepper is so obnoxious to most insects, that few will approach or stay in its presence. The object of the flour is to combine with the pepper, and with the water or dew to form a paste, which will adhere to the leaves for many days unless washed off by heavy rains: in which case the application should be renewed.

HOW TO COOK RHUBARB.—It is a common error in cooking rhubarb to peel it. This should never be done as the skin contains the aroma of the plant, and is not at all fibrous but cooks as readily and becomes pulpy. We have derived this information from a French cook of note, experience and skill. The same cook tells us that asparagus should be cut into pieces about three quarters of an inch long before cooking. It should be boiled with a nice piece of salt pork and served up in the same manner as peas.

A REMEDY FOR THE BARK LOUSE.—A certain remedy for the bark louse, is using the common sal soda, which may be had at any druggist's for 3 cents per lb. Dissolve it in water, allowing one pound of sal soda to each gallon of water. When well dissolved, apply it with an old whitewash brush to the limbs and trunk of the tree. It destroys all insects which harbor under the loose bark, and effectually kills the bark louse. I use it in spring and autumn when the trees are not in leaf, and its effects are astonishing in giving new vitality to the trees.

THE NEW GEM.—Two celebrated Chemists, Messrs. Wholer and Deville, have discovered a process by which *Boron* may be crystalized, forming gems equal in hardness and refractive power to the diamond, and of various colours. *Boron*, the base of the common *borax* of commerce, was discovered by Sir H. Davy in 1807, who separated it by the galvanic battery, as a dark olive coloured substance, without taste or smell, and like *Silicon* a non conductor of electricity. Its characteristics placed it midway between *Carbon* and *Silicon*, with the distinction, that it was long supposed to be uncrystallisable. Later investigations have, however, removed this disagreement, and the three substances are now found to assimilate to character. Crystallised *Boron* may truly be called the *diamond of Boron*, as is the true diamond that of *Carbon*. It is obtained in the form of transparent crystals, varying in colour from a yellow to a red, but this colour appears to have been accidental and due to impurities in the material operated on. It is believed that greater care in purification will lead to the production of colourless crystals. Crystallised *Boron* possesses a lustre and refractive power, which exceed those of all other substances as the diamond. It is presumed that, when colourless crystals shall be obtained, they will present exactly the appearance of diamonds, in respect of their refractive and reflective powers. They are equal in hardness, scratching the corundum, or oriental ruby: and applied in powder, polishing the surface of the hardest gems. The laboratory of the chemist will henceforth furnish gems equal to those formed by nature, either for use in the arts or for articles of decoration. So perfect are the *Boron* gems, that nothing short of their destruction by chemical means will enable the best judges to distinguish them from those they simulate. And the probability is, that this discovery will greatly affect the value of precious stones. The ease with which the colour of the product is affected by accidental impurity, will enable the manufacturers to make stones of any desired tint. The discoverers have presented specimens to the French Academy of Sciences.

SEX OF EGGS.—The round plump eggs will hatch hens, and slender ones cocks, invariably. So says an exchange.

NEW GUANO.—Letter from the English Consul at Puerto Rico, to Lord Clarendon:

“Puerto Rico, Feb. 16, 1857.

“My Lord,—In the Island of Mona, situated about fifty miles nearly due west of the town of Mayaguez, at the western extremity of the Island of Puerto Rico, some deposits of guano have been discovered, and according to the report of the surveyors appointed by this government to inspect the deposits, a copy of which I have obtained, the guano is situated in three caves, and the quantity is said to amount to 23,525 tons. I regret that I am unable to state the proportion per cent. of ammonia contained in this guano, as I have not yet succeeded in procuring a sample, nor have any steps been taken by the government to ascertain this fact, upon which the value of the discovery depends, the samples brought by the surveyors having been forwarded to Madrid. A tolerably correct estimate of its properties, however, may be formed from the circumstance that a cargo taken by the master of a merchant vessel, under the flag of the United States, who was the discoverer of these deposits, realised at New York the sum of twenty dollars, or £4 2s. sterling, per ton. The governor of Puerto Rico is awaiting instructions from the authorities at Madrid as to the manner in which he is to dispose of the guano which in the meanwhile has been protected against further depredations. I have, &c.

(Signed) “LENNOX HUNT.”

A VALUABLE RECIPE.—Take one pound of sal soda and half a pound of unslacked lime, put them in a gallon of water over the fire, and boil about twenty minutes; let it stand till cool, then drain off and put it in a strong jug or jar. Soak your dirty clothes over night, or until they are well wet through, then wring them out and rub on plenty of soap, and in one boiler of clothes, well covered with water, add one tablespoonful of the washing fluid. Boil half an hour briskly, then wash them thoroughly through one suds, and rinse them well through two waters, and your clothes will look better than the old way of washing twice before boiling. This is an invaluable recipe and we want every poor tired woman to try it.

GUANO DISCOVERIES.—Mr. Arthur Benson, who arrived at New York in steamer *Illinois*, went out as agent of the American Guano Company of that city. He visited Jarvis Island, Howland's Islands, and New Nantucket, in the Pacific Ocean, and has brought home with him four tons of the guano as a sample. The supply of guano upon these islands is almost inexhaustible, and of a quality not inferior to that of the Chinchas.

MR. CAIRD IN PARLIAMENT.—The agricultural author from Baldoon, better known as the "Times Commissioner," has been returned to Parliament. An English paper thus writes:

"The return of Mr. James Caird for the borough of Dartmouth is a gratifying piece of agricultural intelligence, and as such we have great pleasure in announcing it.—There is many an agricultural subject brought every year under the attention of the House of Commons, and Mr. Caird's presence there will be the guarantee of a more practical discussion of them than they have hitherto received.

CHINESE SUGAR CANE SEED.—About two hundred and fifty bushels of the Chinese sugar cane have been distributed by the Patent Office this season. It is thought by many that this cane is destined to be cultivated as extensively in the United States as Indian corn, yielding as it does, at the same time, sugar for man, and provender and grain for beast.

JURY MALADY.—It was observed that of the large number of Jurors which were summoned to serve at the trial of Cunningham and Eckel, at New York, on Monday, very many of them were afflicted with lameness, deafness, weak eyes, and other infirmities, the evil effects of which they expatiated upon to the Court under oath.

STRAWBERRY BEDS.—They should be kept free from weeds and grass, well watered when in flower and when bearing. To keep the ground always moist and the fruit clean various methods are adopted, the favorite being a mulch of spent tan. It keeps down the weeds, yield a litue tannic acid, keeps the ground moist, and preserves the fruit from dirt and sand. No other article will as well accomplish all these desirable purposes.

SUMMER MANAGEMENT OF SHEEP.—In the spring, do not turn your sheep into the pasture until it is well up, or until it is ankle high, so as to have something to shade the ground; keep your sheep close, and feed them with hay and "grain of some kind—they will eat it well if kept from grass. When put upon pasture, have three or more fields, and change them often, so that their pasture may be sweet. I have known a neighbor lose three hundred sheep out of six hundred in one summer. He divided them into three parts, and put them into three large fields, with no shade except what the fence on south side of each field made. The sheep lay along the fence, and when the nose fly came, the sheep were to be seen running with their noses to the ground, fighting the fly, and eating only just enough to keep life in them. The sheep did not go more than eight or ten rods from the fence, and this was eaten close to the ground when there was plenty of pasture on the north side of the field: as a consequence the sheep poisoned themselves in their own filth. The fly laid its egg in the nostrils of the sheep, and they soon died in great numbers of "worm in the head."

Now, you would ask, how he should he save his sheep? He should have put them all into one field, and forced them to go farther from the fence; and about two or three days after the first shower, he should have changed them to another field. Whenever you see your sheep run with their noses down to the ground, drive them to your farthest pasture; the fly will stay about where the sheep have lain. Keep changing them from field to field, and you will not be troubled with "worm in the head."—*Genesee Farmer*.

THE HOUSEHOLD BABY.

BY GRACE GREENWOOD.

[Grace *alias* Mrs. Lippencott, has lately had a baby, and she is now able to write some practical rhymes from real experience. They are very pretty, and we give them a place for the eyes of those who cannot versify their thoughts.]

What a joy to human eyes
When it laughs or when it cries,
What a treasure, what a prize,
Is the household baby!

Be its temper rising, falling,
Is it cooing, crowing, calling,
'Tis the same dear precious darling,
Is the household baby!

If the scenes without be dreary,
If the hearts within grow weary,
Baby wakes, and all is cheery—
What a rush for baby!

Mamma's eyes grow bright with joy—
Grandpa laughs, and grandpa's boy
Gladly leaves his last new toy
To play ho-peep with baby!

Sisters from their music run,
Maud has caught "the sweet one,"
Grace bends down in girlish fun
To make a horse for baby!

Up to everything we know,
Hands and feet "upon the go,"
What a funny creature though,
Is the household baby!

Bring the puppy and the cat,
Let him pull, and pinch, and pat,
Puss and pup were made for that,
Made to please the baby!

Bring those china vases, mamma,
Get the "mirror and the hammer!"
Anything to make a clamour,
And delight the baby!

Let it clang and clash away,
Let it laugh, and shout, and play,
And be happy while it may,
Dear, mischievous baby!

What a joy to human eyes,
What an angel in disguise,
What a treasure, what a prize,
Is the household baby!

THE NEW CENTS.—The directors of the mint, with the approval of the Secretary of the Treasury of the United States, has arranged with the Adams Express Company for transportation of the new cent coin at the cost of the mint, to all points of the Atlantic States accessible by railroad and steamboat, and all other places which can be reached by means of conveyance not incurring unreasonable expense.

CURCULIO REMEDY.—We have ascertained the relative component parts of Mr. Mathews' alleged remedy, which is as follows:—One peck of unslacked lime; six pounds of salt; one barrel of water. This is to be applied with a common garden syringe. If one application is not sufficient, repeat it. A single application is said to have answered with him last year.

This "remedy" has made a good deal of noise among the fruit growers of the Union. Some believe in it, others pronounce it a humbug. It has been a secret until lately.

UNIFORMITY IN WEIGHTS AND MEASURES.—An attempt is being made in England to bring about this most desirable end—one that grows more and more needful as the world, old and new, becomes more and more linked together. We hope to refer at length to this subject on some future occasion.

HORSE'S AGE, AS SHOWN BY THE TEETH.—We have a fine large engraving, from Geo. H. Dadd, Veterinary Surgeon, Boston, giving the teeth of the horse, from the temporary teeth of the colt to full age, with brief instructions, affording great facilities for ascertaining the age of the horse; price \$1.

ALTERATION OF THE AGRICULTURAL ACT.

A Bill has been introduced and carried through the Upper House, to amend in some respects and to mar in others the present Agricultural Act. We have only had time to give the measure a hasty perusal before going to press, and have not space in the present number to undertake a full analysis. The main feature of the new Bill is the abolition of Counties as a territorial boundary for County Societies, and the substitution of "Electoral Divisions." The sum which a "Division" Society may draw from the public chest is reduced to £200. Assuming that a County Society, as they are still to be called, will be organized in each Electoral Division, the whole sum that may be demanded from Government will be somewhat greater than under the present arrangement. To this alteration, which we understand is a suggestion of the Board of Agriculture, we have no objection. It will make some confusion for a year or two, and will then probably work well enough. In the County of York the new system will operate more justly than the old, inasmuch as the large tax-paying population of the three Ridings, including the City of Toronto, could only obtain £250 from the public grant, while several counties, with a smaller population than either of the Ridings, could draw an equal sum. Of course the absurd restriction that was foisted into the former Act, which practically compelled County Societies to hold their exhibitions at the County Town, is to be done away with. The Directors may hold them where they think best. So far we think the amendments are likely to prove beneficial. But there are some new elements introduced into our Agricultural Societies, at the suggestion, we are told, of the learned Minister of Agriculture, that in our opinion will lead to difficulty and confusion, and interfere very seriously with the harmonious working of these associations. Mr. Vankoughnet seems to think that it will be an improvement to make a sort of hotch-potch by mixing up Horticultural Societies, Boards of Trade, Mechanics Institutes, "Boards of Art," &c. &c., with Agricultural Societies. One of his "amendments" alters the constitution of the Provincial Association. The members of these new bodies are made *ex officio* members of the association. It therefore ceases to be an *Agricultural* Association—its original aim—and becomes an affair of Trades, Mechanics, Manufactures, Arts, &c. &c. The association had already extended its arms so as to embrace a large portion of these mechanical productions, to the very serious injury of the agricultural objects for which it was established. What it will become under Mr. Vankoughnet's remodelling remains to be seen. An exhibition of Mechanics, Manufactures, and Works of Art, is a very different affair from a Cattle Show. The two things have no necessary connexion, require different arrangements, and should be held separately. The latter, including the products of the farm, may be exhibited for two or three days; the former should extend to as many weeks. In the United States the two things are kept distinct. Works of art and all kinds of mechanism may be seen at the Fair of the American Institute; the products of agriculture and the implements of the farm are exhibited at the annual show of the State Agricultural Society. If Mr. Vankoughnet had established a Mechanics Fair, and *provided the funds for sustaining* it, we think he would have shown himself a better Minister of Agriculture than by attempting to make the Agricultural Association carry all these things upon its back in addition to its own proper burdens. The same mixing process is attempted in the case of County Societies. The "Presidents of all the Mechanics Institutes, and Boards of Trade *within the County* are made Directors of the Agricultural Society! What are these gentlemen likely to know about Agriculture? Is it likely that their views will harmonize with those of practical farmers? We have no faith in this new *omnium gatherum* system. We must postpone further observations until our next issue. It is proposed that the new Bill shall take effect from 1st of January next.

PRIZE LIST.—With this number we send another sheet of "Transactions"—making the 4th—and the Prize List for the next Provincial Fair to be held at Brantford on September 29th and 30th and October 1st and 2nd, 1857.

These sheets have caused a few days delay in the mailing of the *Agriculturist*, but we hope our subscribers will not complain when they know the cause.