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CANADIAN AGRICULTURIST,

AND

Journal of the Board of Agriculture

OF

UPPER CANADA.

PUBLISHED MONTHLY,

AND DEVOTED TO

AGRICULTURE, HORTICULTURE, SCIENCE,

AND DOMESTIC ECONOMY.

VOL. X.—1858.

PRINTED AND PUBLISHED FOR THE BOARD OF
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ERRATUM —By an oversight the words “Vol. IX” have been printed in the heading of several numbers of this volume, instead of “Vol. X.”

T H E

Canadian Agriculturist.

VOL. X.

TORONTO, JANUARY 1, 1858.

No. 1.

THE AGRICULTURIST FOR 1853.

The *Agriculturist* has felt, and expects to feel the "hard times," in common with every other "institution" in the country. But we shall continue to urge, and as far as possible our aid to effect improvement in agriculture,—increase of production, and decrease of cost,—as the chief, if not the only remedy, for the monetary evils that now afflict Canada. It is, perhaps, a good thing for agriculture, that the revulsion of prices occurred when it did. The minds of our farmers have been turned away from hazardous speculations, in which many of them had unwisely involved themselves, and they will now see that there is nothing so sure, so certain, so satisfactory in the end, as the *plough*. The profits of the farm are small, under ordinary circumstances, but where skill and industry have been moderately exercised, they are never converted into a *loss* that brings bankruptcy and ruin in a day. Not so with the merchant, the manufacturer, or the speculator. They may be wealthy, confident, flourishing to-day, and without a house or home that they can call their own to-morrow. A thousand cases could be cited in Canada alone, in which this sudden reverse has come upon persons belonging to the classes mentioned, within the last six months! Let us, then, "stick to the farm." Let us, instead of repining, take courage, and endeavour to *improve* the farm. Make it more productive; make it less expensive to work, by availing ourselves of every attainable improvement; and whether prices range high or low, we shall, at least, be tolerably free from the visits of the sheriff.

The *Agriculturist* will not, we think, prove less interesting or less useful this year than last. We have found it necessary to retrench a little, by reducing the number of pages, though the quantity of matter will be much the same. We have dropped the advertising pages, because we found they added considerably to the expense, without much profit. Many advertisers neither pay beforehand nor afterwards, and the amounts are too small to cover the cost of collection. A monthly paper cannot advertise profitably, without charging

three or four times as much as a daily or weekly. We shall briefly notice, editorially, for the benefit of our readers, any new article or improvement, or sale of stock, &c., which we may be requested to advertise.

The sheets of the Board of Agriculture's "Transactions" will be supplied to subscribers as fast as they are published, and delivered to us. New subscribers will not, we fear, be able to obtain the sheets already published.

The price of the *Agriculturist* is only *half a dollar*. Will not our friends make a special effort to increase its circulation? We are glad to announce that Professor Buckland has promised his valuable aid as a regular contributor this year. Other able correspondents will also assist to make the paper useful and interesting.

Agricultural Societies will be supplied as usual, but we await their orders.

WINTER BUTTER.

Butter made in winter is well known to be inferior to that which is produced during the other three seasons, especially summer and autumn. The difference is occasioned by a variety of causes, some of which, perhaps, it is not in the power of human ingenuity to remove. Much, however, may be done in the way of mitigation, and there is no good reason why butter made in the winter, should generally be, even in the extreme climate of this northern portion of the American continent, so deficient in colour and quality.

The quality of butter, no doubt, greatly depends upon the breeds of cows kept for dairying purposes. Those that are remarkable for early maturity and disposition to fatten, are seldom good milkers, to which class belongs a large number of Durhams and Herefords, although there are many animals among these distinguished breeds, as well as the Devons, that prove of first-rate excellence as dairy stock. The Ayrshire, and some of the smaller breeds of black cattle inhabiting the higher lands of Scotland, Wales, &c., (a few of which have recently been introduced into Canada, with apparent success) constitute, with judicious crossings with the best of our native breeds, as good a stock, perhaps, on the whole, for dairy purposes, as we are likely to obtain. The cross of our native cows, when judiciously selected with short-horn, Hereford, or Devon bulls, not only produces animals of superior size, form, and feeding qualities, but often some of the best milkers. The Jersey cow, (commonly called the Alderney—a native of the Channel Islands between England and France,) has long been distinguished as exceeding all others for the richness of her milk, and the quantity and quality of the butter. In England it is common to keep a cow or two of this breed among a herd of half a dozen or more, simply with the view of improving the quality of dairy products. A few have lately been introduced in the United States, with what results we have not seen stated. The Jersey cow is certainly a somewhat tender animal, and would not, we suspect, be very productive in our

cold Canadian winters, without, at least, the strictest attention to warmth and feeding. Besides the breed is small, and by no means plump and symmetrical, with no propensity to fatten under ordinary treatment. It is this latter circumstance that accounts, in great manner, for the peculiar richness of their milk.

The principal causes of the very inferior appearance and taste of winter butter, may be traced to the inferior food with which cows are fed during this season, the difficulty of keeping the dairy at a proper temperature, so as to enable the cream to separate freely from the milk, and thus to bring it into the most suitable condition for churning.

Cows are usually fed upon dry hay, with sometimes straw, which have comparatively little power of producing milk yielding good butter. A few roots such as carrots and parsnips, with a little mashed meal or bran, (the former cooked, and the whole given warm would be all the better,) in addition to hay or corn stalks, would be found to increase largely the supply of milk, yielding a far superior quality of butter. Turnips, as is well known, are apt to give the butter an unpleasant flavour, which, however, may be much mitigated, if not entirely overcome, by putting a small quantity of powdered saltpetre into the milk pail, previous to milking, provided the turnips are sound, and not given in too great quantities.

The great thing is to keep milch cows in as uniform temperature as possible, not too hot, and with a regular supply of fresh air; fed regularly and uniformly, using warm mashes once a day; allow plenty of pure water, and pay the strictest attention to cleanliness, both as respects the animals themselves, and the floor and bedding upon which they rest. Milking should be attended to with the strictest punctuality, both as to the time and the mode of performing the operation. To require that the dairy should be kept as clean as possible, and all its operations conducted systematically in the same spirit, with a moderate and uniform temperature, are conditions essential to success.

It is a too common practice in winter to keep the cream too long before churning, thereby occasioning great patience and difficulty in performing that operation. On the contrary, if the cream is made too warm, the butter becomes seriously injured both in colour and quality.

Cows properly selected, warmly housed, well fed with a variety of food, systematically attended to, both as regards cleanliness and milking; a neatly conducted dairy of proper temperature, and in the coldest weather never heating the cream higher than 55° , or the most, 60° ; under these circumstances, the too oft-unwelcome task of churning will be completed at least within an hour, and butter larger in quantity to what we usually see in winter, will be the certain result.

THE QUANTITY of drain pipes made in England is said by the Builder 'to average forty miles a week! and of these, probably one-third are made in Lambeth.

NEW METHOD OF PRESERVING POTATOES.

It is well known that various expedients have been adopted of late years to preserve potatoes in a sound and wholesome state for cooking, but without any result that can be said to be completely successful. As the disease appears to be quite as prevalent in Europe the present season, as it is here in Canada, and over a large area of this continent, any easy, practicable method that can be devised of preserving the comparatively sound tubers for future use, must be regarded as an object of general interest and importance.

It is stated upon good authority that Mons. CHOLLET, the celebrated Paris manufacturer of compressed vegetables and preserved meats, has been so successful in applying MASSON'S patent to the potatoe, as to leave nothing to be desired.

Professor Lindley, in a recent number of the *Gardener's Chronicle* observes :—
 "Before expressing an opinion on the subject, we have thought it right to give the preparation a fair trial; it has now been in daily use with one of us for some time, and we think no one could possibly tell that the mashed potatoes, when brought to table, were otherwise than prepared from fresh tubers. Perhaps, in taste, they resemble roasted potatoes, more than boiled ones; a merit, undoubtedly, not a defect. The preparation may be kept in canisters, with a perfect certainty of there being no waste, nor any chance of deterioration."

"The present price of potatoes in Covent Garden Market, of the best quality, is about £7 a ton. One ton of prepared potatoes is equal to four tons raw; if then, as we understand, the manufacturers offer their preparation at £25 10s. a ton, wholesale, it is obvious that it is £2 10s. a ton cheaper than the raw material, besides which it is liable to no waste, or loss otherwise."

The mode of preparing the potatoes for table is very simple, and may be thus briefly stated: Put one pound of them into a saucepan, and pour about three pints of boiling water on them; cover the saucepan (to prevent cooling) for a quarter of an hour, then add salt, &c.; mash well; this will make about four pounds of excellent mashed potatoes.

If this method should be found, upon further trial, to answer the expectations now excited in regard to its present state of progress, there can be no doubt but it will be very extensively practised. The labour and risk incident to the storing of potatoes, especially in so severe a climate as ours, are so great, that should this plan prove generally practicable, it will effect no small saving in national, as well as domestic economy. In unfavourable seasons, a large amount of tubers, in an incipient state of disease, might thus be converted into nutritious food, and preserved for an indefinite period. As the price of potatoes has, of late years, ranged quite as high, (probably, in some instances, considerably higher) on this side the Atlantic, than on the other, this discovery promises an equal benefit to America and Europe.

THOSE who excell in strength are not most likely to show contempt of weakness. A man does not despise the weakness of a child.

THE IMPORTANCE OF AGRICULTURE.

BY HON. EDWARD EVERITT.

There is a temptation, when men assemble on occasions of this kind, to exaggerate the importance of the pursuit in which they are engaged, in comparison with the other callings of life. When farmers, or merchants, or manufacturers, or teachers, or professional men, come together, to celebrate an anniversary, or an important event, or to do honor to some distinguished individual, it is almost a matter of course that their particular occupation or profession should be represented by those on whom the duty of speaking for their associates devolves as the most important profession or calling. No great harm is done by these rhetorical exaggerations, which in the long run, must correct each other; and which, if they have the effect of making men more content with their own pursuit, are not very pernicious, even if they remained uncorrected.

Although these claims which men set up, each for the paramount importance of his own occupation, cannot of course be all well-founded, it may be maintained that each of the great pursuits of life is indispensable to the prosperity of all the rest. Without agriculture and manufactures, the merchant would have nothing to transport or exchange. Without commerce, the farmer and the manufacturer would be confined to a barter trade, in a limited home circle of demand and supply. In this respect, all the great pursuits of life in a civilized community may be deemed of equal importance, because they have each and all for their object to supply some one of the great wants of our nature; because each is necessary, to some extent at least, to the prosperity of every other; and because they are all brought by the natural sympathies of our being into a harmonious system, and form that noble and beautiful whole which we call civilized society.

But without derogating from the importance of any of the other pursuits and occupations, we may safely, I think, claim for agriculture in some respects a certain precedence before them all. It has been said to be the great and final object of government to get twelve impartial and intelligent men into the jury box; by which of course, is meant that the administration of equal justice between man and man is the primary object of civilized and social life. But the teacher, secular or spiritual, might plausibly urge that it is of prior importance that the community should have the elements, at least, of mental and moral culture, and be taught the obligations of an oath, before any twelve of its members should take part in the administration of justice. The physician might contend that health is of greater importance than the trial by jury; and with greater reason it might be claimed for agriculture that it supplies the first want of our nature; the daily call of the great family of man for his daily bread—the call that must be answered before the work of life, high or low, can begin. Plaintiff and defendant, judge and jury, must break their fast before they meet in court; and, if the word of a witty poet can be taken, certain very important consequences sometimes happen to culprits, in order that jurymen may get their dinner.

But, to speak in a more fitting and serious strain, I must confess that there has always seemed to me something approaching the sublime in this view of agriculture, which (such is the effect of familiarity) does not produce an impression on our minds in proportion to the grandeur of the idea. We seem, on the contrary, to take for granted, that we live by a kind of mechanical necessity, and that our frames are like watches made, if such a thing were possible, to go without winding up, in virtue of some innate principle of subsistence independent of our wills, which is indeed in other respects true. But it is not less true that our existence, as individuals or communities, must be kept up by a daily supply of food, directly or indirectly furnished by agriculture; and that if this supply should wholly fail for ten days, all this multitudinous, striving, ambitious humanity, these nations and kindreds and tribes of men, would perish from the face of the earth, by the most ghastly form of dissolution. Strike out of existence at once ten days' supply of eight or ten articles, such as Indian corn, wheat, rye, potatoes, rice, millet, the date, the banana, and the bread-fruit, with a half-dozen others which serve as the forage of the domestic animals, and the human race would be extinct. The houses we inhabit, the monuments we erect, the trees we plant, stand in some cases for ages; but our own frames—the stout limbs, the skillful hands that build the houses and set up the monuments and plant the trees—have to be built up, recreated, every day; and this must be done from the fruits of the earth gathered from Agriculture. Everything else is luxury, convenience, comfort—food is indispensable.

Then consider the bewildering extent of this daily demand and supply, which you will allow me to place before you in a somewhat coarse mechanical illustration. The human

race is usually estimated at about one thousand millions of individuals. If the sustenance of a portion of these multitudinous millions is derived from other sources than Agriculture, this circumstance is balanced by the fact that there is a great deal of agricultural produce raised in excess of the total demand for food. Let, then, the thoughtful husbandman, who desires to form a just idea of the importance of his pursuit, reflect, when he gathers his little flock about him to partake the morning's meal, that one thousand millions of fellow-men have awakened from sleep that morning craving their daily bread with the same appetite which reigns at his family board; and that if, by a superior power, they could be gathered together at the same hour for the same meal, they would fill both sides of five tables reaching all round the globe where it is broadest, seated side by side, and allowing eighteen inches to each individual: and that these tables are to be renewed twice or thrice every day. Then let him consider that, in addition to the food of the human race, that of all the humble partners of man's toil—the lower animals—is to be provided in like manner. These all wait upon Agriculture, as the Agent of that Providence which giveth them their meat in due season; and they probably consume in the aggregate an equal amount of produce: and finally, let him add in imagination to this untold amount of daily food for man and beast the various articles which are furnished directly or indirectly from the soil for building materials, furniture, clothing and fuel.

The grand total will illustrate the primary importance of agriculture, considered as the steward—the commissary—charged with supplying this almost inconceivable daily demand of the human race and the subject animals for their daily bread: a want so imperative and uncompromising, that death in its most agonizing form is the penalty of a failure in the supply.

But although agriculture is clothed with an importance which rests upon the primitive constitution of our nature, it is very far from being the simple concern we are apt to think it. On the contrary, there is no pursuit in life which not only admits, but requires, for its full development, more of the resources of science and art,—none which would better repay the pains bestowed upon an appropriate education. There is I believe no exaggeration in stating that as great amount and variety of scientific, physical, and mechanical knowledge is required for the most successful conduct of the various operations of husbandry, as for any of the arts, trades, or professions. I conceive, therefore, that the Legislature and the citizens of the great State over which you, Sir, (Governor King,) so worthily preside, have acted most wisely in making provision for the establishment of an institution expressly for agricultural education. There is a demand for systematic scientific instruction, from the very first steps we take, not in the play-farming of gentlemen of leisure, but in the pursuit of husbandry as the serious business of life.

THE LATE SMITHFIELD FAT CATTLE SHOW.

We condense the following items from the *Mark Lane Express* :—

We give the following figures, stating in the closest form which breeds have come up in unwonted force, and which of the new classes have contributed most to the increase of our present show. The entries were :—

	1855.	1856.	1857.
Devons	17	21	32
Herefords	20	21	36
Shorthorns	40	42	43
Scotch, Irish, and Welsh	16	13	18
Other pure breeds	3	18	22
Cross bred	7	12	8
Extra	9	13	17
Total	112	140	176

An increase, it appears, of one-third, both in the Hereford and Devon classes, has been the principal item in swelling the catalogue and filling the show-yard, though the Shorthorns still remain a long way ahead of the other breeds. The total number of cattle is very much greater than on any other occasion.

As to excellence, we have no hesitation in pronouncing this exhibition the best ever collected together in Baker street Bazaar. Class after class presented an array of animals of remarkably high character, with rarely an inferior beast; and, as we might anticipate from the extension of good breeding of late years, the quality is almost universally of a superior

description, and the huge monstrosities of fat once wondered at and ridiculed have given place to animals of a more profitably-feeding, early fattening, and valuable kind. The standard of merit is not now simply the amount of flesh, except in the judgment of some old-school authorities; but the symmetry, quality, and valuable characteristics of the animal are taken into consideration, notwithstanding the circumstance of this Show being purposely designed for fat stock intended for the butcher. And we trust this principle will be persevered in—namely, to encourage such a fatness as may indicate the profitable nature of a breed, rather than mere weight, regardless of expense and time wasted in its attainment.

As to individual merit, we must own that, while the universal excellence proves how our various breeds are progressing, instead of deteriorating, the two best animals in the yard cannot be set up as nobler and more magnificent specimens than were ever seen before. If we were to compare the gold medal ox or cow this year with those of many years back, we should undoubtedly find that a great advance has been made; but to expect that every year's prize animal is absolutely to eclipse the preceding one, is to consider breeding as purely mechanical. Whereas nature bestows her gifts of form and beauty, and constitution and kindly habit, capriciously, as far as world-renowned marvels of excellence are concerned, and sometimes only at rare intervals gives us a Master Butterfly or a Durham Ox. Hence the relative merit of individual animals from one year to another is of less importance than the amount of improvement or otherwise marking an entire class, or, indeed, a whole show. And, of course, the larger the number of first-class animals bred, the greater the chance of obtaining an ox more perfect and astonishing than the world has yet seen.

The prize Shorthorn ox will remind many persons of the famous Durham ox, and is remotely descended, we believe, from Earl Spencer's celebrated stock. What an extraordinary length and breadth, and yet most beautiful symmetry and compactness of form; his chine and ribs most wonderfully expanded, his immense weight of flesh most evenly laid on and of first class quality; and his head and bone fine, and very handsome. The only deficiency appears in his thigh and twist, which might have been better in proportion. His measurement is extraordinary, the girth being no less than nine feet two inches, and the length nearly six feet. Now that Mr Wortley has made such a glorious *debut* at Baker street, winning golden opinions with his real golden honours, and also, in addition, a third prize for his Shorthorn cow, likewise of his own breeding, we hope to welcome him in future as an annually successful competitor.

Last year the Shorthorns were obliged to yield one of the gold medals to Mr. Heath's superb Devon; but the year before, they carried off both, just as on the present occasion. Colonel Towneley's splendid cow, four years and one month old, and having had one calf, is far before any other animal in her exceedingly good class, and is, indeed, one of the finest we ever saw; not, however, for an immense frame or an extravagant degree of over fatness, but because of her level and regular feeding, her unsurpassed touch and quality of meat, united to a faultless symmetry, beauty, and fine ossal, and neat head. But the visitors to Salisbury, York, Birmingham and elsewhere, know her so well that we need not extend our expression of admiration. We would only add, that if any proof were wanted of the importance of fat stock shows, it is here in the fact that an animal of the very purest and best breed has won the day against all others, in the production of the largest quantity of most valuable beef. But is she a *bona fide* fat animal for the butcher? Or will she be taken home, and, if possible, again use as a breeding cow? Colonel Towneley also gains a second prize for an exceedingly good steer in the cross or mixed-breed class; this steer and the cow being the only animals exhibited by him.

The show of Shorthorns, as a whole, was very satisfactory; and we particularly admired the class for steers or oxen above three years old, comprising some especially good animals and the class of cows which contained some amazingly good and meritorious. Yet it will be observed in the lists of awards that the judges have given the Shorthorns little more encouragement or approval than they were compelled to administer, only two commendations being accorded—one to Lord Southampton's ox, and the other to Mr. Garne's white cow. The latter is very handsome, very fat, and had she been less patchy, and with more meat on her neck, would have been entitled to a prize.

MICE AND TREES.—Some unthinking individuals are apt to throw straw or coarse manure around fruit trees to protect them during the winter. The straw makes a first rate protection for mice, where they can gnaw the trees at their leisure under the most comfortable conditions. It is better to either stamp down the snow very solid around trees or to scrape it away altogether, when injury is feared from mice.

IMPROVEMENT IN THE BREED OF HORSES.

In former articles we have shown or endeavoured to show, a few of the general principles of horse-breeding; the advantages resulting from breeding to pure blood on the sire's side, whatever the quality of the dam; the points of the symmetry and strength most desirable, and, indeed necessary to the parents on both sides, and on which side more particularly; the necessity for perfect structural and constitutional soundness and health, on both sides, and for the absence of hereditary vice of temper; and, lastly, the state of health to be aimed at in the dam, as well previous to her being taken to the horse as during the period of her gestation, and the means to be taken to obtain and preserve that condition of health, or, as it is usually termed among horsemen, *condition*, emphatically. We shall now proceed to show a little more particularly what are the improvements to be obtained in different varieties, and how this improvement is to be produced; for it is very certain that the same horse will not answer for every kind of mare, but that, on the contrary, for very different styles of dams different sires will be required to produce equal results in the progeny. Now, it may be stated generally that the ordinary objects of breeding-up are twofold. One, and the most common and most feasible, is from an entirely cold stock, we will say, for example, the Cleveland Bay, or the nearest approaches to be found to it in this country, the Conestoga cart mare, namely, or the larger Vermont draught mare. We do not speak in this connection of the Morgan, or the Canadian, or the Norman—some mares of which last stock have been recently imported into this country—since all of these have some strains, more or less distant, of thorough blood,—to raise a progeny improved in spirit, speed, lightness of action, endurance of fatigue and courage, by stinting mares of that stock to blood horses. This is the simplest of all the ends to be attained, and can be almost certainly accomplished, by sending the mare—taking it for granted that she is sound and generally well formed—to any thorough-bred horse, provided he also is sound, well shaped and free from vice. Any such horse will, more or less, improve the progeny, both in blood and in the form, structure and strength of the bones, both in frame and spirit, without any especial reference to the particular strain of thorough blood from which he himself comes, so that the strain be not tainted with hereditary disease. In the second, and third, and yet more in later generations, when blood has been introduced and the dams as well as the sires have some mixture of a pure lineage, it is more requisite to look to families, since some families notoriously cross well with others, and some as notoriously ill. Of course, it is better that the sire, where it is possible, should be of a racing stock that is famous for courage and stoutness, such as any of the stock which trace remotely to Herod, Cade, Regulus, Eclipse, or others of known fame: but thus far it is not essential, or a *sine qua non*, since every blood horse, even if—as Sir John Fenwick said in the reign of Charles II—he be the meanest hack that ever came out of Barbary, is so infinitely superior in courage, stoutness and quality, both of bone and sinew, as well as blood, to the best cold-blooded-mare that ever went on a shodden hoof, that he cannot fail to improve her stock, whatever may be his comparative standing among racers. All therefore, that the breeder has to do in this instance is to satisfy himself that the horse is *really thorough-bred*—that is to say, traceable on both sides of his pedigree to English stud-book race-horses—and that he has the virtues and has not the defects of form which have been previously subjects of discussion. Next to this there must be harmony in the size, and, to some extent, in the forms of the animals. The putting small mares to gigantic horses, or colossal mares to ponies, in order to give size to the offspring, will never answer, but on the contrary will result in the production of rickety, malformed produce. The mare as it has been said may be with a vantage something larger, longer and more roomy than the horse, but not too much so. We should say a mare of sixteen hands and proportionate strength, should never be put to a stallion under fifteen hands, and from that up to fifteen and one inch; nor a mare over sixteen hands to one short of fifteen and a half, up to sixteen hands three. Still less should little mares be put to tall horses, or low mares to leggy horses, in order to give height. If the brood mare be low, but long and roomy, it is no bad fault; but the way to give size to the progeny is to select, not a tall or leggy horse for the stallion, but one of singularly perfect symmetry, not much higher than the dam, though an inch or two inches will do no harm, provided he be not long in the legs, especially from the knee downward, short backed, close coupled, and generally strong built—particularly so in those points where the mare is too much defective. We stated above that there is no greater blunder than to breed from an animal rickety and defective in one point to another perfect in that point or even unduly developed in it, with the expectation of curing both defects in the progeny. This rule, however, is to be understood with some margin. That is to say, it is to be held absolute only where the defect in the mare or the horse is so

great that it is imprudent to breed from either at all. One often, however, sees both mare and horses with some one or more faults in symmetry which are positive defects, although only in a secondary degree, and which are at the same time counterbalanced by so great a number of positive advantages, excellence and beauties, that he is wise to waive the one defect striving to remedy it, in view to the other good to be hoped for from the strain. Now it of course follows, that if one breed from parents, each of whom is in a degree faulty in one and the same point, he is more likely to have an offspring faulty in the same point, than if he breed from one which is in a degree faulty and the other excellent. Therefore, no one in his senses would doubt that, if his mare was slightly too long in the leg, or too light of bone, somewhat too long in the back, too loose in the loins, or too narrow in the chest, he should choose a stallion to which to put her as strong and as perfect as possible in those parts which in the mare are blamable. The transmission of external shapes is as yet a mystery, and probably ever will continue so. No one can say whether the stallion or the mare has the greater share in giving structural form or constitutional disposition to the young animal. Indeed, there seems reason to believe that there is not an invariable rule on the subject; but that some dams and some sires possess an extraordinary power of impressing their own forms and stamping their own images, in the greater degree, on the young. The general rule, however, and that which it is wise to observe is that *like begets like*. Therefore, the practice should be always, where one desires to breed from a mare slightly defective in one point, or more than one, of symmetry, to select a stallion as excellent as possible in that defective point, and if one be resolved for any cause to breed from a stallion of whose blood, or beauty, or performance he is particularly enamoured, and that horse be weak in any point or points, to put to him whatever mare one may have in his stud most excellent, where he is weakest; but in no case, even if it prohibit one from breeding from that horse at all, to put him to a mare which is faulty in the same part. The second ordinary object of breeding-up is, where mares of some highly valued strain, possessing some degree of pure blood engrafted on an inferior stock, have degenerated in size, in height, strength and size of bone, to breed them to such horses as shall, without deteriorating their blood, improve them in size and bone. This is a far more difficult question in breeding, and before it can be answered it will be necessary to know of what blood is the impure portion constituted, and in what proportion does it exist. If it be distinctly of cold blood, as of Cleveland Bay, Suffolk Punch, Conestoga, or common cart-horse, and if the proportion of thorough blood mixed with it be inconsiderable, it may at once be pronounced useless to take any pains about it, as the results will not, it is a thousand to one, repay the trouble or expense. If the proportion of pure blood be considerable, but remote, and the stock have been long *in bred*—as, for example, is the case with the Morgans—the only possible way to breed them up is to stint the mares to the very best and most powerfully made short coupled, broad chested, strong loined, short legged, thorough bred stallions that can be found, of a totally distinct recent strain of blood, if the blood of the mares can be ascertained, although it will not be the worse if some ten or more generations back, they both run into the same line. In this case the stallion, in the first cross, should not be taller or larger than the mare, except in strength, size of bones and muscular development. The fillies in the second generation will be larger in all ways than their dams—since improvement of strength, health, symmetry and development implies improvement in size. These fillies may be again put to horses of exactly the same stamp as that last described, but just so much larger than her dam. This will in all probability achieve the desired end. This is in fact what is known among breeders as breeding-up, in the true sense of the word. If, on the other hand, the mares, degenerated, have been crossed with pure English blood, but remotely and not recently, on Canadian or imported Norman stock, there will be no objection to crossing them back once to Canadian or Norman stallions; and the breeding back will often in that case so far re-invigorate the race that the fillies produced by that union will often reproduce animals of astonishing excellence by a farther cross with well-chosen thorough blood of the present day. In a future paper we shall explain what is meant by avoiding in-breeding continually to the same blood, yet breeding back to it, after a lapse of years with beneficial effect.—*New York Tribune*.

A NEW ENGLISH APPLE. A seedling raised from the Newtown Pippin of the United States has been raised in England, and called the Harrison Pippin. The *Gardeners Chronicle* states that it resembles the London Pippin, and is somewhat similar to the White Calville in quality. It has a clear, warm, greenish-yellow skin, freckled with russet, and delicately tinted with red next the stem. It attracts much attention in the fruit stores.

THE AMERICAN EAGLE REAPING AND MOWING MACHINE.

It will be pleasing to many of our readers, to learn from the extract given below, from the *Farmer's Magazine*, the marked approbation by the farmers of England, of the Eagle Reaping and Mowing Machine, a recent American invention:—

The trial of the reaping and mowing machines resulted in bringing out what was undoubtedly the principal novelty of the show—namely, the American Eagle Reaping and Mowing Machine. This is the invention of A. A. Caryl, of Sandusky, Ohio, and was exhibited by the English agent, Mr. H. Clayton, of the Atlas Works, Dorset square, London. This machine took the first prize as a grass-mower; and from the simplicity of its moving parts, its light draught, and easy adjustment in overcoming obstacles, it attracted great attention. The framing is carried by bearings upon the axle of the main carriage wheel; preceding which the pole is placed, while the driver sits behind. By this arrangement the whole is balanced, so that no more weight bears on the neck of the draught-horses than is necessary to steady the movement; and by merely pressing with his foot on the hind part of the framing, the driver, with amazingly little exertion, is able to raise the cutter a height, if necessary, equal to eight inches—thus overcoming all obstacles, and clearing the furrows. The principal features, however, are the driving and cutting apparatus. This machine has virtually a double set of cutters, the upper ones reciprocating at a much slower rate than is usual in other machines, while the under ones are stationary, and, projecting an inch beyond the line of the upper ones, act at once as guards and cutters. All the blades, both of the upper and lower series, are independent of each other, and each is connected with the bar by a screw-bolt. This arrangement enables a broken or disabled blade to be easily removed, and a perfect one substituted. The upper blades are held down by a spring pressure bar, so that the operation is similar to that of shears, the grass being cut between two edges. The cutting blades are made of iron at the back, and the front or cutting-edges of the best cast-steel. The iron giving strength, the steel can be made as hard as desired. The driving gear is amazingly simple, and contrasts favourably with that of other machines, there being an entire absence of all toothed gearing; a cam, fixed to the end of the cutter-bar, and a series of curved slides in the main wheel, in which the cam works, being substituted. It is difficult, without the aid of drawings, to give an idea of the movement.

If the reader will imagine the periphery or tire of the main wheel to have a series of curved apertures cut in it, of equal size, and at equal distances, these apertures being connected with each other by narrow cuttings, thus forming a species of sinuous path round the entire circumference of the wheel—and further, if he will suppose the cam of the cutter-bar inserted in this path—he will form some idea as to how, by the passage of the cam from the small cut to the large curved aperture, and from the latter to the former alternately, the cam will receive a series of jerks, alternately from side to side, which will thus impart a reciprocatory motion to the cutter bar, to which it is attached. From the nature of the movement, doubts are apt to arise as to its ultimate economy. Certainly nothing but first-class workmanship will stand the severe test of the mode of operation. As a grass-mowing machine, all who have seen it in operation think it of first-rate excellence, and that it supplies a desideratum long felt in haymaking operations. It is right to state that, in addition to the first prize at the Salisbury Show, it obtained the \$1,000 prize in 1856, after a three days' trial, at the Massachusetts Society for the Promotion of Agriculture, U. S.

FEEDING HORSES.—Your remarks in relation to the amount of hay and grain, which a horse will consume per day, have attracted my attention. The actual amount of food consumed by a horse, will depend upon his form and disposition. I have found that horses of a compact form and quiet disposition, weighing about 1,200 pounds, and exerting a force equivalent to moving 150 or 200 lbs., at the rate of two miles per hour, for 10 hours per day, and six days in the week, will require each twenty pounds of oats, fourteen pounds of hay, and seventy pounds of water, with a comfortable stable, to keep them in good order. Much depend upon the horse having a keeper who knows how to use him without harshness.
—*Cor. Mich. Farmer.*

A celebrated Morello cherry tree, supposed to have been planted in the time of Henry the Eighth, at Whalley Abbey in Lancashire, died during the past summer. Its height was ninety feet. Even the mistletoe sought its mighty shadow in one of the places where it was most appropriate.

THE VALUE OF AGRICULTURAL SHOWS.

We copy the extract given below from an article in the *Farmer's Magazine*, entitled "Notes on Novelties at the Agricultural Shows of 1857," by Robert Scott Burn :—

"All improvement is progressive; the feeble attempts of infancy but tend to cultivate the habits, and enlarge the faculties which lend strength and vigour to maturer life; and the tiny Shows of bygone years, which but afforded lounging places to an indifferent public, or an opportunity for the incredulous and the 'slow' to indulge in sneers at 'new-fangled notions and graceless innovation'—each gathering fresh experience from its predecessor—have resulted in those gigantic combinations, which alike please from their novelty, and teach lessons of practical worth from their utility, and of which that recently displayed at Salisbury has been the most remarkable. Nor although the last few years have witnessed such marvellous strides towards perfection—of which each succeeding show has been the exponent—need we look forward to our speedily arriving at the culminating point; with such a wondrously expansive science as that of Agriculture, we still progress towards a point which each year may to us seem like perfection, but which experience shows us is as far off as ever. Much has been written and more has been said about the uselessness of these shows; but while freely admitting that there may be, and is much to reform connected with them—that the *prize system*, to wit, may cause merely spasmodic efforts, which have the appearance of life, but are in reality dead; and that the *implement trials* might, with benefit, be made to have as much reality as they now have of name, and of real work and less of play about them—still we think that the services rendered to the cause of agricultural progress, by the holding of stated agricultural shows, have been neither few nor unimportant. They may be termed bazaars merely; but granting they are this, and 'nothing more,' in bringing men to them we enlarge their ideas; we rub the rust off them by contact with other material; and truly he who rubs shoulders with his fellow men in the world's busy marts, has a better chance of becoming world-wise, and 'getting up to a thing or two' likely to be of use to him, than he who sits at home 'contented with little,' but with an unfortunate indifference to the possession of 'mair.' And surely he has little chance of getting in a good stock of the *newest* and the *best* of articles, who sneers at the utility of going to a full market, but puts up at the nearest huckster's shop. We can scarcely conceive of the dulcet fellow who ever trod in 'how-low' or sported 'smock,' walking through the alleys of an agricultural show without having some new thought awakened, or some slight desire to know what it was all about. And the stowest farmer might well be inclined to ask if none of the implements he stood gazing at, could be of use to him, and whether he could raise and rear such mighty cattle, or such gigantic sheep, as rouse his wonder. For spreading knowledge, it is a great matter to rouse curiosity and incite to inquiry. Our shows have done this good—the amount of which it is difficult to estimate—they have roused curiosity and stimulated inquiry. If they have not taken the high position and assumed the positive usefulness of a guide-book, which points out the pleasant spots on the road to be visited, or the dangers to be avoided, they have at least acted as finger posts to indicate the direction in which the traveller may quickest and most economically arrive at his destination. And this, though apparently a humble, is in reality—we perpetrate no pan, good reader—an exalted position to occupy."

A TRAP FOR CATCHING SHEEP KILLING DOGS.—Make a pen of fence rails, beginning with four, so as to have it square, and as you build it, draw in each rail as you would the sticks of a partridge trap, until your pen is of sufficient height, say five feet. In this way you will construct a pen that, when finished, will permit a dog to enter at the top at pleasure, but out of which he will find it difficult to escape, should he have the agility of an antelope. All that you have to do to catch the dog that has killed your sheep, is to construct the trap, where a dead sheep is left, as directed, as soon as possible after an attack has been made on your flock, put a part or the whole of a sheep that has been killed, in it, and remove the balance to some other field. In a majority of cases the rogue and murderer will return the succeeding night, or perhaps the next, and you will have the gratification next morning of finding him securely imprisoned. Some may object to the plan, perhaps, on the ground that you might catch an innocent dog. If so, he can content himself with not trying it. For my own part, I should pronounce the sentence of guilt on any dog caught on *my farm* within three nights after my sheep had been killed, and execute the law speedily, without any qualms of conscience.—*Southern Planter*.

VETERINARY SCHOOL.

(To the Editor of the Agriculturist.)

In the midst of our political and party turmoil, it is pleasant to note the progress of Canada in agricultural improvement, and I hesitate not to ascribe a very considerable portion of the happy results of this progress to your literary labours.

In a young country, agriculture must necessarily have much to learn; but it is some encouragement to reflect that our farmers are tolerably untinged with hereditary prejudices, and are, for the most part, reasonably disposed to go *a-head*, when they think it is in a right direction.

I have no intention, at present, of entering upon the *mare magnum* of arable husbandry, but will content myself with offering a few remarks upon the Live Stock department, more especially when labouring under the consequences of accident or disease. No man knows better than you, or more highly appreciates the praiseworthy and successful efforts of such men as Stone, Wade, and their confreres, in improving our cattle; and when I look at the *grade* productions upon my own farm, the dams being common low-priced cows, and remember that I have sent out some forty or fifty thoroughbred Durham bulls to various parts of the Province, I am not over sanguine in assuming a considerable improvement in the common herds of the country. One rule should be *rigidly* adhered to, in fact should be considered as a law of the *Medes and Persians*—upon no account to make use of any other than a pure Durham bull, with an unexceptionable pedigree both in *sire* and *dam*. This rule ought to be applied to all breeds, *Durhams*, *Devons*, &c., and will be relaxed of course, as regards the female according to circumstances. When a bull of a totally different, or of a *mixed* breed, is used, no breeder can have any certainty whatever, of what the produce may be. I saw a cow in the herd of the late Mr. Bates, which exhibited some points, certainly not to have been looked for in his herd. Mr. B. was perfectly aware of the blemish, and told me it was clearly deducible from what he called the "*alloy*" on the Galloway blood, at one time infused, by the Messrs. Colling, into their well-known herd. It had descended through, probably thirty generations.

Our cattle have, in times past, been miserably neglected; even as regards the ordinary provision of food and shelter; under accident or disease, their treatment has been barbarous and disgraceful in the extreme. The establishment and distribution of well-educated men, as veterinary practitioners, throughout the Province, is a boon breeders cannot too highly appreciate, and which, I verily believe, requires little more than organization to attain.

It is no long period since Scotland was quite as destitute in this respect as Canada is now, and Scotland can now boast of a veterinary school, probably unrivalled in Britain, attended by young men from all parts of the world; issuing diplomas, which are accepted at the Horse Guards, and supplying scientifically educated blacksmiths to all parts of the country. It may be

asked, "How did this happy result come about?" Truly we may say "*ex parvula scintilla, &c.*" The late Dr. Barclay, of Edinburgh, so well known as a teacher of comparative anatomy, had an excellent habit, after lecture, of discussing the subject day by day, with his students, of whom the writer was one. A large proportion of his students were classically educated young men, then preparing to take their medical degree, and who rather winced under the shrewdness and intelligence displayed at such times, by a young man (William Dick) attending the class. This young man, in a modest and unpretending manner, often put them to the blush, and at last led them to ask the Doctor if he knew who the young man was, upon whom he daily lavished his commendations. The doctor having declared that he knew nothing about him, was quickly told that he was a common, working blacksmith. "Well, well," says the Doctor, "all I can say is, that *whether he be blacksmith or whitesmith, he's the cleverest chap among you.*"

Dr. B. and the writer, being both at the time, Directors of the Highland Society of Scotland, induced the Board to interest themselves, and the veterinary school was soon established. Various parishes sent up young men for education, who found an engagement for their spare hours at Mr. Dick's, or other forges in town. The medical professors and lecturers supplied them with free tickets to their classes, and what was perhaps of at least equal benefit, attended most anxiously at the examinations, when diplomas and certificates were to be issued to the students who were found to merit such distinctions. Truly, these examinations were no sham; often has the writer, in company with many others, marvelled at the acquirements which raw country lads had made.

The Edinburgh Veterinary School has prospered, and has become a sort of University, having a regular staff of Professors and Demonstrators, all highly qualified men, and who, by dividing the curriculum, essentially facilitate and expedite the progress of the students. Mr. Dick, of course, continues at the head of the Institution, and had, indeed, much reason to be satisfied with the fruits of his talents and labours. Mr. D. has many good qualities as a teacher, none more remarkable than his power of attaching and inspiring the students. Many are the consultations and communications which reach him from the young men, when established in their homes. Of these, many were painfully, though ludicrously, illustrative of the low ebb of veterinary knowledge around them. Perhaps one or two examples may be acceptable. One pupil writes:—"I was lately called to a poor ox, labouring under hopeless constipation. I at once pronounced the case to be desperate, and took my leave. The owner, loth to lose his ox, called in the old farrier or leech of the district. A cure was now *confidently promised*. A lively trout ("*risum teneatis*") was taken from an adjoining stream, and committed to the gullet of the patient, under the assurance that it would soon work its way through all impediments, and speedy relief be afforded. Of course, nothing more was seen of the trout; the poor ox died, and the *Edinburgh doctor* receiv-

ed all the credit of the failure, from his *previous* mismanagement of the case."

Another student writes : " A few days after my arrival at home, I was sent for, in violent haste, to attend a three year old colt, which had been castrated about six hours before. The artery was bleeding in full stream, the stall deluged with blood, and the owner and family all looking as pale as if the case had been desperate. The animal had been several times cast and fired, and the cord so shortened, as to be, with some difficulty, brought outside of the scrotum. The operation had completely failed. I had the colt thrown again, and told them there was no danger, and that all would soon be right. The only answer I got was, " Nothing frightens you doctors, there can be no chance of recovery." I seized the cord without difficulty, and guided by my acquaintance with the anatomy of the parts, I caught the artery with the forceps, applied the ligature, stopped the bleeding, astonished the neighbours, who had crowded in to see the poor beast die, and went away loaded with blessings, for the simplicity and success of the operation."

I know not whether the breeders and farmers of Canada will feel as zealous as I do upon the subject. Petitions for aid and advice should flow in from all agricultural societies to the Bureau and Board of Agriculture. The thing *may* be very easily done, and in a few years every part of Canada may possess intelligent and well educated veterinarians and men who will shoe our horses in a proper way.

The school may in some way be controlled by the Bureau and Board, and perhaps form a rider to the agricultural class. I am not sure, also, in such a Province as Canada, whether medical men, who must expect in many cases to be established in rural districts, would not find veterinary science of some importance, and whether they might not find that a successful treatment of a valuable mare or a prize cow, might not prove as valuable an introduction to a farmer, as the best they could do for any biped in the household.

If you approve of this suggestion, I trust you will forward its accomplishment by all the means in your power. There can be no doubt, that it would prove equally useful and creditable to Canada.

I observe that our neighbours in the States are engaged with a similar enterprize, and I only wonder with their splendid horses, herds, and flocks, that they have not sooner carried it into operation. Pray excuse my trespass upon your time and business.

Yours truly,

WOODHILL, December, 1857.

ADAM FERGUSSON.

THE NEW YORK STATE AGRICULTURAL COLLEGE.—The trustees of the N. Y. Agricultural College met on the 11th of November last and awarded to S. E. Hewes, Architect, of Albany, the sum of \$250 for the plan and specifications submitted by him with other competitors for the College buildings. The executive committee have also been instructed to make contracts for the lumber and materials for the buildings. The president of the College also made a report on the farm, and its management the past season was very satisfactory to the trustees.

DR. VOELCKER ON FARM-YARD MANURE.

"When doctors differ, who shall agree?" is a well-known adage bearing upon the various contradictions that arise among leading men when engaged in scientific subjects, and more especially upon all those in which chemistry is concerned. Take, for example, the investigations of Davy, Liebig, Way, Voelcker, and Lawes, and we find that they in their opinions as widely differ as do those great agricultural improvers, Smith, Huxtable, Kennedy, Caird, and Mechi. Take their present opinions, and compare them with those past, or with those of each other, and we shall find such discrepancies as to lead us but to echo the adage we have quoted.

If we view the soil only as a huge laboratory, in which the various ingredients that exist need only to be brought into action through the various combinations they may be made to produce, we shall only be pursuing the same course as the chemists before mentioned have done. If we view the land as it presents itself to our notice in its natural character as the means whereby plants derive their support, when also assisted by tillage, and a rotation best qualified to effect the object, we shall so come at a means conducive more than all others to a favourable result. For it is such a principle, combined with the application of the means at hand, such as marl, chalk, lime, and the ordinary manure produced upon the farm, that our best practical farmers have invariably pursued, adopting, as they have termed it, the best *shift* of husbandry suitable to each of their respective localities. Further, if we look carefully to results, we shall probably find that they have turned out to have been the most profitable. Indeed, it is notorious that those who have acquired the largest fortunes by farming are men who have pursued their object upon the principles long established and practised in the districts in which they have operated, rather than those who have reduced new theories to practice, which in many cases have led to their own injury or ruin.

Were we disposed to enumerate instances within our knowledge, in which experimentalists have failed in their attempts, we might have abundant opportunity of doing so. But it is not our intention invidiously to select any individual as having been especially unsuccessful, feeling that every one who strikes out a new path has much to overcome. And if he had even succeeded to show us a nearer and a better way, he would have still to encounter all the prejudices of those that have long followed the old one, and who might from habit have preferred their old rough path to the new and improved paved one.

We are induced to offer these remarks as bearing upon the subject of treating ordinary farm-yard manure, so far as the opinions of Professor Voelcker go, as set forth in the last number of the "Journal of the Royal Agricultural Society," and as at variance with the processes carried out by our best practical men, and upon which subject the Central London Farmers' Club lately had a most able discussion.

It has long been the practice of the farmers in the southern and eastern portions of the kingdom to carry out their manure, in the winter and spring, to the spot where it would be shortly afterwards required. To fully ensure its decomposition, the heaps, in most instances, were turned over to induce fermentation, as it has invariably been found necessary, to ensure neat cultivation, so to reduce the hard and woody portions of the manure to such a pulpy and soft state that plants might be enabled to readily appropriate them in their early stages of growth. After many years' successful experience in this way by farmers, they were at length told that by so doing the better portions of the manure would pass off during the time of the fermentation process, and that it would be better to convey the manure at once direct from the farm-yard to the field in its new and undecomposed state, but that in either case it was absolutely necessary to have it incorporated with the soil immediately upon its application, to prevent any loss of its ammonia, or other constituent manuring properties, by exposure to the atmosphere. It has, therefore, been the practice of our best farmers to cover it with the furrow as soon as possible after having been carted into the field, not only as the best mode of application, but as the best means of securing the utmost amount of benefit.

Such management, according to Professor Voelcker, is quite useless. He states that in dung-heaps under a state of fermentation, however excessive, that free ammonia is not generated except in the centre of the heap, where the heat is greatest, and where it has risen from 120 to 150 degrees Fahr.; and that it even then rarely escapes, except in very small quantity, as the external layers of the dung-heap, where but little heat is generated, arrest and fix it in its course and endeavour to escape; that the strong smell emanating from dung-heaps in a state of fermentation does not arise from the ammonia escaping, but it is rather to be attributed to peculiar volatile organic combinations—to some sulphuretted and phosphoretted

hydrogen, and a variety of other gaseous matters, amongst which ammonia as a gas is only found in very minute quantities.

Upon the other hand, the learned professor attributes the greatest injury sustained by farm-yard manure to arise from its being exposed to the action of rain-water, especially in open yards or after its removal to the field in heaps; and to obviate this, he recommends that the manure be carted immediately to the field, and incorporated with the soil—at all times a difficult task, and at the same time, frequently a slovenly mode of application.

The point thus maintained by the learned professor's investigations, that manure does not become materially depreciated by fermentation if at the same time kept free from the action of rain-water, being the one, which especially refers to the practice of most farmers, is after all, found to be good practice chemically. So, after fifty years controversy, it now again becomes established that the practice of our farmers has been the right one, so far as the circumstances combine to produce a generally beneficial result. We therefore conclude that such practices as have been long pursued in a district are most likely to be the best, inasmuch as they have been proved through successive generations, and adopted as those that have been found to be the most successful and profitable.—*Mark Lane Express.*

BUILDING HOUSES AND STABLES.

Probably as little attention is given by farmers to the fitness of their buildings for the purpose designed, as to any one subject connected with their profession. In building houses for their own use, they seem to pay but little attention to ventilation. Their rooms are generally too low, and too small, especially sleeping rooms, which, in fact, ought to be large and as high as any room in the house, the kitchen perhaps excepted. The windows are generally too few, and too small, and open altogether at the bottom, when they ought to be open at the top also. If we ever require fresh air, it is when we are asleep. But, we should always have it. We should not, however, have a current of cold air, rushing directly in upon us when we sleep. Small, close, sleeping rooms are injurious to health. The walls of a sleeping room should not be less than ten feet high. To prove that ventilation is absolutely necessary for the proper enjoyment of your house, just make a room perfectly tight, then, (if in winter) build a roaring fire in the morning, and see how much water will drip from the windows upon your carpet. The air in the room becomes hot, and, coming in contact with cold glass, is condensed, and ice is the result. Permit the hot air to escape, and let in the fresh air, and you have no ice on the window inside, no wet carpet or floor; and you will have good health for yourselves and children. Therefore, we say, *firstly, secondly, thirdly, and every time*, that fresh air is the most useful article in a farmer's house. Now for stables. The same principle holds good in this case. A stable should be warm, but dry and well ventilated. By all means build your stable above ground! An underground stable is the worst place that a horse was ever put into. It is better for him to stand behind a haystack, if well blanketed, as there he can have plenty of fresh air, and is not exposed to the diseases engendered by a close, damp, unhealthy stable. But neither extreme is necessary, under ordinary circumstances. The great fault with an under-ground stable, lies in the fact, that you cannot ventilate it freely and thoroughly. The current of fresh air always passes *over* it, instead of *through* it. Experience teaches you that there is too much steam in such a stable generally, which renders the air stagnant and unhealthy for man or beast. Besides, there is too much moisture arising from the bottom, which does not pass freely off. Therefore, we say, build your stables *above* ground. Wood is the best material for that purpose, although not the most durable. If you build of brick or stone, be careful to give your stable a thorough ventilation. Let every horse have plenty of air. Give up that old idea, that you have done your duty to your horse when you have given him a close stable, and a full crib.

CURE FOR CHAPPED HANDS.—Most of our juveniles during the winter season, are troubled with chapped hands; for the benefit of mothers, who are obliged to listen to their endless complaints, we publish the following recipe for chapped hands: "Take 3 drachms of camphor gum, 3 do, white beeswax, 3 do, spermaceti, 2 ounces olive oil—put them together in a cup on the stove where they will melt slowly and form a white ointment in a few minutes. If the hands be affected, anoint them on going to bed, and put on a pair of gloves. A day or two will suffice to heal them.

THE WHEAT MIDGE.

The ravages of this mysterious and destructive insect are still continued in New York and probably other parts. So destructive has it become in Western New York that the farmers generally have suspended in a great degree the culture of this important crop.

While making a recent tour through this State among the farmers, we took pains to examine with some care the wheat growing in some fields, in order to know more of this insect. We have known it for upwards of twenty-five years, and during this period its progress has been gradually westward, though its depredation seems hardly as universal and as extensive as it has proved in New York. The egg is deposited in the embryo grain, and while in the milky state the grain is devoured by them. In some grains from one to ten or fifteen are found, and in some fields hardly one head in a hundred will escape. To an unpractised eye, nothing peculiar in the appearance of the growing grain will be observed, but to one acquainted with it, it is readily perceptible by the heads standing more erect in consequence of the loss of grain. In appearance the insect resembles a minute maggot of an orange color, and when full grown is hardly the twelfth of an inch long, and quite slim, and when in the perfect or winged state it is apparently still more frail. Should circumstances favor its growth and development as it advances into the wheat growing sections of the West, its appearance may be regarded with no small degree of alarm. Whether like some other destructive insects it will finally pass away for a time, or whether its work of destruction is to be continued forever where it once finds its way time only can determine.

In New York, when it cannot find wheat in which to deposite its eggs it will attack rye and oats, but with less disastrous results, as wheat appears to be its favorite food.—*Valley Farmer.*

A FEW WORDS ON BEGINNING TO KEEP FOWLS.

To follow the spirit of the practical Mrs. Glass, when she says "first catch your hare," we must first consider procuring the fowls. Beyond every other error, avoid the common practice of getting a great lot of fowls cheap, and purchase rather a very small number of first rate birds. Let them come of a good stock, but do not depend *too much* on the strain they have sprung from; let the fowls themselves be very good. From such fowls every egg may be turned to account, and the majority of the chickens will be good. If these parent birds are from eighteen months to two years old, it will be a good thing; not that the chickens will be the better, but they will be easier to rear. The sooner the fowls are bought now the better, that they may get familiar to their home and with each other before the spring. Next year the stock may be crossed with advantage by the purchase of a sitting or two of eggs which can be depended on. They must have a good weather tight, but well ventilated, house, and the more liberty they have in their ran the better. Besides the house, they should have a shed under which they may take shelter, and where they may have a pile of dust for cleaning their feathers. If such a shed has to be built for them, a frame-work of rough wood, with a good pitch to the top, covered with patent asphalted felt, will answer the purpose.

It may measure four or five feet from back to front, and be made as long as convenient, and underneath plenty of dry dust should be thrown. Besides shelter and dust, fowls must have access to gravel and lime. In the localities which are best for poultry rearing, they can find these things for themselves, while in less congenial spots almost everything of the kind, has to be brought. Gravel, with plenty of small stones, must be brought to the fowls, unless they can go out and find it for themselves. It is a good plan to have the runs well gravelled, especially if the birds can run out upon grass land. For lime, a few barrows full of old mortar—bricklayer's rubbish—may be thrown under the shed. Green food is another requisite of poultry. A good grass run is the best thing—liberty to go out into a field or orchard for a few hours each day. Lacking that, a little green food should be thrown to them every day—cut grass, cabbage, lettuce, &c.

Cleanliness is all important: daily cleansing of the henhouse and frequent sweeping of the runs, especially if they are limited in extent, will greatly conduce to the health of the inhabitants.

The important question of feeding, on which there are so many and such various opinions, comes next. Some judges recommended the entire use of soft food—*i. e.*, food made of meal

of different kinds ; but we consider that a fowl's gizzard requires that corn should form a portion of its food, and consequently give one meal a day of corn to two of meal, sometimes varied by one meal of meal to two of corn.

When the important chicken season approaches, every egg should be saved, brought in when laid, marked with the date and the hen that laid it, and put by with care. If eggs are laid and saved very early, especial care must be taken that frost does not get at them. If they can be set before they are a week old, so much the better ; do not, at any rate, keep them more than a fortnight. There is sometimes a vexatious difficulty in getting a broody hen, just when a valued batch of eggs is ready ; for this a few Cochin hens are of great value, as, from laying in the winter, they often get broody at a time when their services in rearing chickens are most valuable. Their habit of turning off their chickens while still very young is objectionable ; but early in the season we cannot be choosers, and are therefore very glad to accept the services of Cochin mothers. Early in the season hens must be set in a warm place—i. e., one safe from severe frost ; rather later they often do best in a nest of their own choosing out of doors. Seven or nine eggs are enough to give while the nights are very cold ; later the number may be increased to eleven, thirteen, or fifteen : we have generally found a better proportion of chickens in giving eleven than a larger number of eggs. Interfere as little as possible with the sitting hen ; only take care that she has food, water, and dust to roll in when she comes off, and that she gets back to her own nest. The hen in sitting close, does the best that can be done for the eggs, and help, even when necessary, seldom turns out well. We do not, at any rate, advise a beginner to meddle with the hen or her work.

When the chicks begin to pop out from under the mother, place before her a cup of large oatmeal, dry : some barley meal, not too much moistened ; or barley crushed small. When the hatching is well over, remove the hen and her brood to a clean, warm nest, that the vermin likely to infest the one where she has set may not annoy the little chickens, for to them they would be quite dangerous. The next day the hen and her brood may be put down, either in a room, henhouse, or out of doors, according to the weather.

The best advice we can give about the chickens is : attend to them and feed them *very* often, beginning with chopped egg and breadcrumbs, crushed corn, oatmeal, &c., and give barley-meal instead of egg after the first week or two. Let them be kept safe from wet, damp, and cold easterly wind.—*Field*.

HOW TO MAKE HENS LAY IN WINTER.

Some writers on domestic poultry seem to think that there is no limit to fowls laying eggs, if they are managed and fed in a certain manner. This is fallacious, as a hen can be made to produce but about 100 to 150 eggs a year, if fed ever so well, and kept ever so warm in winter. Fowls are like the soil, they must have rest, and if we keep them laying all winter, they will be about barren in the spring, when it is the season for eggs, and when they are most used. It is a good plan to keep fowls warm in winter, and to feed them with fresh meat, when it can be done cheaply ; but it is not advisable to force them to lay too much.

We have been led to make these remarks, on seeing an extract from Bement's *Poulterer's Companion*, as annexed :—

TO HAVE EGGS IN WINTER.

The question is often asked, "Why cannot hens be made to lay as well in winter as in summer?" They can, to a certain extent ; but they require as a condition, that they be well provided with warm and comfortable lodging, clean apartments, plenty of food, pure water, gravel, lime, fine sand, and ashes to roll and bathe in.

There seem naturally to be two seasons of the year when hens lay ; early in the spring, and afterwards in the summer : indicating that if fowls were left to themselves, they would, like wild birds, produce two broods a year.

Early spring-hatched birds, if kept in a warm place and fed plentifully and attended to, will generally commence laying about Christmas, or even somewhat earlier. In cold and damp this is not to be expected, and much may, in different seasons, depend on the state of the weather and the condition of the bird.

It is a well known fact, that from November to February (the very time when we want eggs the most) they are to many a bill of expense, without any profit. To promote fecundity and great laying in the hen, it is necessary that they be well fed on grain, boiled potatoes given to them warm, and occasionally animal food. In the summer they get their supply of

animal food in the form of worms and insects when suffered to run at large, unless their number is so great as to consume beyond the supply in their roving distance. I found it advantageous, in the summer, to open the gates occasionally, and give the fowls a run in the garden and in the field adjoining their yard, for a few hours in the day, when grasshoppers and other insects are plenty. I had two objects in view; one to benefit the fowls, and the other to destroy the insects. It will be found that the fecundity of hens will be increased or diminished, according to the supply of animal food furnished.

Hens moult and cast their feathers once every year, generally commencing in August and continuing till late in November. It is the approach, the duration and the consequences of this period, which put a stop to their laying. It is a critical time for all birds. All the time that it lasts, even to the time that the last feathers are replaced by new ones, till these are full grown, the wasting of nutritive juices, prepared from the food for the very purpose of promoting this growth, is considerable; and hence it is no wonder there should not remain enough in the body of the hen to cause the egg to grow.

Old hens cannot always be depended on for eggs in winter, they scarcely being in full feather before the last of December; and then, probably may not begin to lay till March or April, producing not more than twenty or thirty eggs; and this is probably the cause of the disappointment of those who have supplied themselves at the market with a stock to commence with, and get few or no eggs. As pullets do not moult the first year, they commence laying before the older hens, and by attending to the period of hatching, eggs may be produced during the year. An early brood of chickens, therefore, by being carefully sheltered from the cold and wet, and fed once a day on boiled potatoes, warm, with plenty of grain, and occasionally a little animal food, will begin to lay in the fall, or early in the winter.

TREATMENT OF HENS.—Here is a timely item, containing a valuable hint to poultry keepers. An uncredited paragraph in an exchange says:—"Two flocks of hens were compared. One laid eggs almost all the time. The other laid scarcely any. On examining their treatment the following differences were found to exist; the former had a warm cellar to roost in during the winter; the latter roosted in a stable where the wind blew in. The former had a fine place in an open cellar for scratching among ashes, lime, and earth; the latter scratched in the manure heap, or in the stable when the cows were put out. The former had plenty of good water, with milk, etc.; the others had no drink except what they could find. It can be seen, we think, why one flock laid eggs generously, and the other did not."

ENGLISH PLOWING.

The Editor of the *Maine Farmer* informs us that:—

H. F. French in one of his letters in the *New England Farmer*, speaking of plowing in England, says, their work is done far better than ours, and it is either because they have better plows, or hold them better, and our farmers and plow makers may settle that question as they can.

I have seen a man in England, with a yoke of oxen harnessed in collars, like horses, with blinders on, and bits in their mouths, guiding them with reins, and holding the plow himself, striking out lands eighty rods long, with no stakes except at the ends absolutely straight, so that I could not see an inch variation in the distance.

It is a common operation here to plow land into ridges for mangold wurzels, drill four rows at a time with a horse drill, and when the crop is up, to horse hoe four rows at a time. Any person who will consider this statement will perceive that all the operations must be accurate to admit of this treatment.

HEIGHT OF COLTS.—A very reliable rule to judge the height a colt will attain to when full grown, is the following:—When the colt gets to be three weeks old, or as soon as it is perfectly straightened in its limbs, measure from the edge of the hair on the hoofs to the middle of the first joint; and for every inch, it will grow to the height of a hand of four inches when its growth is matured. Thus, if this distance be found 16 inches, it will make a horse 16 hands high. By this means a man may know something of what sort of a horse with proper care, he is to expect from his colt.

THE GRASSES OF GREAT BRITAIN.

Professor Charles Johnson, Botanical lecturer at Guy's Hospital, England, has recently published a work on the natural history and uses of the grasses of Great Britain. The work is highly illustrated, and is being issued in parts. All lovers of that department of husbandry, which has direct reference to the production of fine stock, ought to be especially interested in the development of every fact pertaining to the grasses. We need much information on this important subject, and hope the useful labours of Professor Charles Johnson will be duly appreciated. Treating of the Sweet-scented Meadow Grass (*Anthoxanthum odoratum*) he gives the following information:—

“Some of the earlier writers upon the relative qualities of British grasses as fodder, seem to regard that before us as a valuable and important one to the farmer. Stillingfleet observes that, ‘Being found on such kinds of pastures as sheep are fond of, and from whence excellent matton comes, it is most likely to be a good grass for sheep pastures;’ and recommends the collection of its seeds, which he assures us, from his own experience, are ‘very easy to gather.’ And I have somewhere else met with a proposition for sowing it on those sheep-downs where it does not exist, in order to improve the flavour of the mutton. In opposition to such practice, I have myself observed that, on some of those of Kent and Sussex, its leaves are almost continually left untouched by the sheep, or only cropped when, in dry seasons, food becomes scarce. In the experiments made by Linnæus and his colleagues, it appears that cows, horses, goats, and sheep, ate it when offered to them apart; but these experiments were too limited and too carelessly conducted to warrant the importance attached to them at the time; and as far as the last mentioned animals are concerned, Stillingfleet’s mutton must have owed its ‘excellence’ to other sources. They seem, however, to have had considerable influence on the opinions of the earlier agricultural systematizers of this country; and the sweet-scented vernal grass always holds a place among the species recommended by them for the production of improved meadow-land. The scantiness of the foliage is very much against its value as an economical grass; it yields little to the scythe, while in permanent pastures it occupies the place of others more nutritive and better liked by cattle generally. Whether its wide distribution among the latter, in almost all soils and situations, may not be productive of some wholesome medicinal effect on the more promiscuously feeding grazing animals, is a question perhaps deserving consideration; the more so, that certain tropical grasses, celebrated on account of their fragrance, have long been employed in their respective countries, with a view to the benefit derived from their tonic, stomachic, and other qualities.”

SALT FOR PLUM TREES.

It is now almost impossible to cultivate any kind of plums in this climate, unless salt enters liberally as an ingredient into the compost applied to them. When this article is used in conjunction with house ashes, there appears rarely to be much difficulty in producing good and healthy trees, which ultimately prove highly productive of fair and well developed fruit. When trees are set in situations in which application of compost is not feasible or where it would subject the operator to considerable fatigue or expense, salt, in its crude state, may be applied; or it may be dissolved and poured around the roots.

If plum trees were carefully washed down once or twice a year in a whiskey lye, and supplied with two or three quarts each of salt—care being taken to retain the soil around their roots light and free from weeds, we should hear far fewer complaints of want of success in this department of pomological enterprise. No fruit commands a more ready sale or higher price in the market. Good plums are at present so scarce as to render them a luxury, and those who have valuable trees in good bearing, are realizing a heavy profit from them. Let those who have trees profit by the above suggestion; they indicate the only legitimate course to be pursued.—*New England Farmer*.

THE DELAWARE GRAPE was amongst the varieties shown at the meeting of the committee of the State Pomological Society of Ohio. This variety ripens from two to three weeks earlier than the Isabella, and is very hardy. The fruit also seems to withstand a moderate freeze.

HOP GROWING IN NEW YORK STATE.

The Editor of the *Homestead*, in a letter from Richmond Springs, N. Y., for his own journal, furnishes the following information on the subject of Hops:—

Hops are the universal crop in this region, there being a few farmers who have not a yard, and some of them cultivating a dozen or more acres. It is the main crop relied on for ready money, and is cultivated by most farmers to the neglect of everything else. Probably more hops are grown in the two counties of Otsego and Madison, than in all the rest of the State, and probably one-third of all the hops grown in the country are raised in this vicinity. It is estimated that there are 2500 acres devoted to this crop, and the yield is from 500 to 2000 pounds to the acre. The whole crop cannot be less than a million of pounds, and some put it a third higher. The soil is well adapted to this crop, and farmers who understand the management, curing and sale of hops, make it profitable. It requires a considerable capital to carry it on, a good deal of skill in curing, and the market price depending upon the European crops fluctuates a good deal. It is an article in which speculators deal largely, and fortunes are made and lost very suddenly.

The poles used by the best growers come from Canada, and are mainly spruce and cedar. They cost about fourteen dollars a hundred, and it takes two hundred dollars to furnish an acre with poles; then every farmer has to build a kiln for the drying of hops, and a room for storing them, and a press for packing them in bales before they can be sent to market. They require manure, and the general objection urged against their cultivation is, that they take all the manure of the farm.

The best land is selected for the hop yard, and it is made the pet of the cultivator. Everything else must be neglected for this. The hops are set out in hills about seven feet apart, and it takes about five bushels of roots to supply an acre. These roots cost 75 cents to \$3 per bushel, according to the price of hops. They are cheap now, as some are disgusted with the fluctuations of the market, and are plowing up their yards.

The rule is to set two poles to each hill, inclining from each other, and to allow two vines to each pole. The whole strength of the root is thrown into these four runners, and all the side shoots on the first half of the pole are plucked off early in the season. The crop is plowed and cultivated between the rows like corn. The plow runs pretty deep in the middle of the seven feet space, and very shallow near the hills. The crop is very light with young vines. A plantation lasts six or eight years.

The picking of hops is mainly done by girls brought from the neighboring village for the purpose. The season only lasts about three weeks, and the wages are about \$2.50 a week. This need of extra help in harvest time is one of the objections to this crop.

The hops are carried in sacks from picking boxes in the field to the kiln, where they are dried by artificial heat. Some of the kilns will dry a thousand pounds at one heat, and it takes about twenty-four hours to dry them. It is the practice to dry at night all that are picked during the day. After drying they are removed to the store room to air, where they remain two or three weeks, and are then packed in bales with the press.

The profits of hop growing were large, when the market price was forty cents a pound, and many went into the business. Two thousand pounds to the acre is not an uncommon crop, and eight hundred dollars from a single acre is not easily made by any other crop. But there are a few farmers who eschew hops on moral grounds, and there are others who doubt their economy in the long run. The temperance men say the crop goes mainly to the brewers, and tends directly to the increase of alcoholic drinks and so to intemperance.

BIRDS' NESTS FOR DINNER.—The bird that supplies this whimsical luxury for the Chinese table is a small swallow the *hirundo esculenta*, which builds its nest on the steep precipices and rocks that overhang the sea. It is found almost only in the Islands of Malaysia. But the price paid to gratify this curious Chinese taste is very high. To procure the delicacy, the risk to life alone is tremendous—from the lofty, deep and dangerous caverns frequented by the swallows—and when brought to the Chinese market, the value is enormous—the finest kind often being sold at £800 for only a hundred weight, or about twice the weight in silver! For this reason it can appear only on the tables of the wealthy, and is not a common dish with other classes.—*Life in China.*

A pomegranate has ripened in the open air in England, on the south side of a wall in a garden in Essex.

GRAPE CULTIVATION IN BAYFIELD.

BY A. B. BROWNSON.

When I arrived here about ten years past, I had two grape vines given to me, one was the Black Hamburg, the other White Sweet Water. I waited until the season for transplanting, then went in a hurry for them, dug, returned, planted, all in a hurry, but the little rogues did not pattern after my taste, for they were in no hurry to grow nor yet to bear. They took their own time to grow a produce; yet after two or three years they produced a few bunches of half-sized, half-starved and half-ripe fruit, and so went on for two or three years and then mildewed.—I am convinced that all attempts to grow the Foreign Grape in the open air will prove a failure.

I was not discouraged from my sundry disappointments. I had seen the native grape flourish in the States, it is true, where the climate is more genial, and I bought three young plants, viz: the Catawba, Isabella and Clinton. I had them taken up by experienced men, packed with care and brought them home—buried them for a day or two until I could get time to put them out as they ought to be: so I began by digging a hole four feet square, three feet deep, then filled the bottom with stones, bricks and old pieces of dried mortar, broken bottles and a quantity of broken bones and then filled up with a good compost of rotten barn-yard manure, sand and clay. I spent about three hours to each vine, my Catawba never grew, but the Isabella and the Clinton grew rapidly, particularly the Clinton, and we had a few bunches of them last year as late as the middle of January, as fresh and as perfect as if just then taken off the vine. Its long keeping qualities, its hardness and productiveness is a proof to me that it alone is our grape for this northern latitude.—Even in the States in backward seasons, it is the only variety which ripens to perfection. It has proved to be the best wine-making grape. It succeeds well in all dry situations, and is never troubled with mildew or rot. It would pay well to have a plantation of this variety for wine-making purposes, as the wine brings from two to three dollars per gallon for Sacramental purposes. The vine grows rapidly and is easily propagated—striking readily from cuttings,—the shoots slender and wiry, ripening so as to be firm, hence its hardness. It will stand the coldest winter without any protection. The wood is grayish brown, shot jointed leaves, thin and sharply serrated, resembling our wild fox grape; the bunches are small and compact in clusters; the berries small to medium, color black, juicy, with much pulp, rather acid when first gathered, they improve by keeping the same as winter pears will do by house-ripening. It is a prodigious bearer and ripens in any locality three weeks earlier than the Isabella, and a month before the Catawba. I have several other novelties, but have not fruited them yet, so I cannot say what they may turn out to be, but should they prove superior, I will give you a description of them.

THE DIOSCOREA.

Hovey's Magazine says:—"Another year's experience in the culture of the Dioscorea has given us a higher estimate of its value, and it is probable, as we learn how to produce it in greater perfection, it will continue to improve in the estimation of all who undertake to raise it. There appears to be little or no doubt of the superior excellence of the yam, among all who have had a good opportunity to test it; the only doubt seems to be in regard to its profitable culture—whether it can be raised with anything like the ease and certainty of the potato, and yield as average a crop as that vegetable. In this respect more experiments are wanting to arrive at a satisfactory result, and for the present this must remain an open question. If its excellence as a nutritious esculent is fully established, time will settle the question of its profitable culture upon an extensive scale.

"The present year several large and very fine specimens have been produced, weighing from one to two and a half pounds each, a more gratifying result than many doubting persons anticipated. At the United States Agricultural Show at Philadelphia, last year, some very fine specimens were contributed by Messrs. Prince; and this year, at the Fair of the American Institute, N. Y., just closed, the same persons presented tubers of similar quality. At the former show the yams underwent the trial of a committee of gentlemen in regard to their excellence for the table, and the report of that committee was unanimously, we believe, in favour of the dioscorea, as a most delicious and nutritious vegetable, every way worthy

the attention it had received from the distinguished professors and agriculturists who took so deep an interest in its introduction to France.

"Our own specimens this year have been very much superior to those of previous years, though without any very particular cultivation. The tubers were planted in the open ground as soon as the weather would allow, and without any preparation of the soil, in a level bed. The earth was not ridged up as we think it should be. They grew, however, rapidly, the vines covering the ground, and the tubers upon digging weighed from one to two pounds each; they were about fifteen inches long, and quite as large for two thirds their length towards the bottom as the sweet potatoes usually sold in our markets. Altogether the experience of the present year has been highly satisfactory, and we anticipate a far greater result from the introduction of this root than has heretofore been expected.

"We have no knowledge of the progress made in its cultivation in France the present year; it is rather too early to hear of the results of their experiments. Undoubtedly its culture has been made a special object in some of the government institutions, and the public will be apprized of their importance. We shall look forward to some account of them in the horticultural journals of the day, and give the results in our papers."

ADULTERATION OF BREAD.

In a review of a work of rather an alarming title, namely, "Is Killing Murder," published in the London *Farmer's Magazine*, we obtain the following information on the subject of adulterating bread in England:—

"Dr. Hassall and Dr. Normandy, (the latter a Professor of Analytical Chemistry,) have gone to work in the most wholesale manner, making a complete sweepstake of the tradesmen in a neighbourhood—obtaining samples from each, of various articles, and finding them, by testing, all adulterated. Thus, of two lots of samples of bread of twenty-five each, every sample contained alum. Chalk, clay, potato starch, &c., are used by some of the bakers in the low neighbourhoods; and whitening has been known to be used in large quantities in bread. The less pernicious, but still fraudulent, practice of mixing barley, beans, peas, and potato farina with wheat flour, is also practiced by the millers, to an enormous extent. The testimony of the two gentlemen we have named, is corroborated by F. C. Calvert, Esq., Professor of Chemistry at the Royal Institution, Manchester; Dr. N. Carpenter, Examiner in Physiology in the University of London; Mr. Julian Rogers, Analytical Chemist; and last, not least, Dr. Letheby, Analyst and Medical Officer for the city of London; who all speak both to the facts and to the deleterious character of the various ingredients put into bread."

LARD AND RESIN FOR TOOLS.

Look at the plows, harrows, cultivators, hoes, shovels, forks, chains, axes, saws, not to enumerate wagon irons, and a multitude of little tools that ought to be provided on or about any farm, and then reckon up how many of them will be lost where the combined effect of air and moisture will attack their surfaces and eat away, enough to render them rough at least, if not to materially depreciate their value. Many instruments are destroyed faster by lying idle than they could be by constant wear. We will not now write a homily upon the value and importance of a *tool-house*, and of having every implement stored in it, but give a recipe for an exceedingly simple, cheap and effective preparation, one available to all, which will at least save all metals from loss by rust.

Take about three pounds of lard and one pound of resin. Melt them together in a basin or kettle and rub over all iron and steel surfaces in danger of being rusted. It can be put on with a brush or piece of cloth, and wherever it is applied it most effectually keeps air and moisture away, and of course prevents rust. When knives and forks, or other household articles, liable to become rusted and spotted, are to be laid away, rub them over with this mixture, and they will come out bright and clean even years afterwards. The coating may be so thin as not to be perceived, and it will still be effectual. Let every one keep a dish of this preparation on hand. As it does not spoil of itself; it may be kept ready mixed for months or years. *Mem.* Fresh lard, containing no salt, should be used. Resin is a cheap article, and may be obtained almost anywhere for four to six cents per pound.—*Mich. Argus.*

PROFITS OF GRAPE CULTURE IN FRANCE.—We learn from the *Monteur Vincole*, the following suggestive hints relative to the wine revenue of France:—"France contains about 5,000,000 acres of vineyards, which are estimated to yield about 80,000,000 barrels of Wine annually, or about two barrels for each inhabitant, the aggregate worth of this vintage is \$600,000,000."

WEATHER SIGN.—In a cloudy morning it is a matter of importance to the farmer, to know whether it will be sunshiny or showery in the afternoon. If the ants have cleaned their holes nicely, and piled the dirt up high, it seldom fails to bring a clear day. Spider-webs will be very numerous about the tops of the grass and grain, some cloudy mornings; and 50 years observation has shown the writer of this, that those little guessers seldom fail—*Ex.*

INFINITE toil would not enable you to sweep away a mist—but by ascending, little you may often look over it altogether. So it is with our moral improvement; we wrestle fiercely with a vicious habit, which would have no hold upon us if we ascended into a higher moral atmosphere.

GIVE THE PLOW AND THE HOE NO REST.—1. In order to prevent the growth of weeds. 2 To ensure needed moisture through the deposition of a greater amount of *dew*, upon which plants so largely depend—softening the earth, so that the moisture that condenses upon the surface may penetrate more deeply, and rendering it more porous for the easier passage of the atmosphere, for condensation in the cooler soil below. 3. To secure a greater absorption of ammonia. 4. To aid in the decomposition of minerals whose elements are the food of plants.

EDITORIAL NOTICES.

ADVERTISEMENTS.—As stated in another place, we have omitted the advertising pages this year. The expense was greater than the profit. Those who may wish to apprise our readers of a forthcoming sale of stock, or some other fact of interest to the farming community, can do so through an editorial notice. In many cases this will answer quite as well as a long advertisement.


WHEAT INSECTS—PRIZE ESSAY.—We are happy to announce that through the aid of the Bureau and Board of Agriculture, we are able to supply to our subscribers this year, with a copy of Mr. Hind's Prize Essay on "The Insects and Diseases injurious to Wheat Crops." This is a most valuable work, which should be preserved and studied by every farmer into whose hands it may come. This "Essay" is worth far more than the subscription price of the *Agriculturist*, and we hope it may be the means of extending its circulation.


DURHAM STOCK.—Mr. John Walton, of Peterboro, offers for sale young bulls and heifers, of thorough-bred stock. Mr. Walton's herd is of first-rate quality. He is one of the most skillful breeders in the country, and in his dealings an honourable man.

BONE MANURE.—Mr. Peter R. Lamb, of this city, has got his bone mill in operation. We have before us specimens of his fine ground at 60 cents per bushel; $\frac{1}{2}$ inch at 50 cents, and $\frac{3}{4}$ inch at 45 cents. It is unnecessary to commend this as manure. Every person who wants to get a *strong* fertilizer, and one about which there can be no humbug, should apply to Mr. Lamb.

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