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LOWER CANADA

AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER;

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES.

PUBLISHED UNDER THE DIRECTION OF

M. J. PERRAULT,

Member of the Provincial Parliament for the County of Richelieu.
Pupil of the Royal Agricultural College of Cirencester, Gloucestershire, England,
and of the Imperial Agricultural School of Grignon, Seine and Oise, France,
Member of the Imperial Zoological Society of Paris, &c.

APRIL 1866.

SPARGERE_COLLECTA.

OFFICE—TOUPIN'S BUILDINGS, PLACE D'ARMES,
MONTREAL.

MEGANTIC NO. 2 AGRICULTURAL SOCIETY.

THE income of the Society for the year 1865 was $515; the disbursements being as follows:

Prizes paid at fall show.....	$224
Amount paid for a ram.....	57

Other general expenses left $36 in hand. The directors, in their report, recommend larger prizes for the ploughing match, so as to bring more competition. The show of cattle and sheep was most satisfactory. The grain, owing to the very fine season for harvesting, was very beautiful, and of excellent quality. In order to infuse fresh blood into the stock of sheep in the county, the directors have wisely purchased a first rate pure bred Leicester Ram, every member having the privilege of getting two ewes put to him. We are glad to observe that all have availed themselves of the opportunity, and have no doubt that the stock will be greatly improved by the change. The directors have, moreover, ordered four bushels of flax seed to be imported through the Hon. the Minister of Agriculture—members of the Society being entitled to an equal share of the seed gratis, provided they are willing to give it a fair trial.

QUEBEC CITY AGRICULTURAL SOCIETY.

THE income of the Society for the year 1865 amounts to $673 from various sources, including subscriptions of 67 members, and service rendered by the imported stallion Canwell to the amount of $300. The keeping of this stallion entails most of the expenditure of the Society; the balance of the revenue remains in the hands of the secretary, to the amount of $232.

EDITORIAL DEPARTMENT.

ORNAMENTS OF THE FARMERY.

NO country home should be without poultry—a general collection of sorts, not of any particular fancy breed. Nearly every animal, if it had to be purchased at a high figure, and imported at that, would be considered highly ornamental. Some specimens, however common, are really ornamental upon lawn, walk, garden, or farmyard. Gail Hamilton expresses our notions upon the poultry question. She says:

"Where is there a more magnificent bird than the Rooster? What a lofty air! What a spirited pose of the head! Note his elaborately scalloped comb, stately steppings, the lithe, quick, graceful motions of his arching neck. Mark his brilliant plumage, smooth and lustrous as satin, soft as floss silk. What necklace of a duchess ever surpassed in beauty the circle of feathers which he wears, layer shooting over layer, up and down, hither and thither, an amber waterfall, swift and soundless as the light, but never disturbing the matchless order of his array? What plume from African deserts can rival the rich hues, the graceful curves, and the palm-like erectness of his tail? All his colors are tropical in depth and intensity. With every quick motion the tints change as in a prism, and each tint is more splendid than the last; green more beautiful than any green, except that of a duck's neck; brown infiltrated with gold, and ranging through the whole gamut of its possibilities. I am not sure that this last is correct in point of of expression, but is correct in point of sense, as any one who ever saw a red rooster will bear witness.

"Hens are not intrinsically handsome, but they abundantly prove the truth of the old adage, 'Handsome is that handsome does.' Lord Kaimes describes one kind of beauty as that founded on the relations of objects. And I am sure that the relation of a hen to a dozen fair, white, pure eggs, and the relations of those eggs to puddings and custards, and the twenty-five cents which they can have for the asking, make even an ungainly hen, like many heroines in novels, 'not beautiful but very interesting.' 'Twenty thousand dollars,' said a connoisseur in such matters, 'is a handsome feature in any lady's face.' And the 'cut-cut-ca-D-A-H-cut' of a hen whose word is as good as her bond for an egg a day, is a handsome feature in any bird's coat."

The usefulness of poultry is not appreciated, because unfed birds will do a little mischief sometimes. They are great insect destroyers.—*N. Y. Tribune.*

THE NOVA SCOTIA AGRICULTURAL SOCIETIES AND THE IMPORTATION OF STOCK.

THESE societies understand the importance of improving the stock of the country by importations of thorough-breds, and we only wish this question was as well understood by our societies. The following account of their proceedings for the last year will illustrate their way of employing the government grant.

Upper Stewiacke Agricultural Society.

We have purchased two bulls for the use of the society for the past year; one of them is a very fine animal, and we expect that our stock will be materially improved. We have them still on hand, and it will take one-half of our surplus funds to feed them through the winter.

We have also purchased twenty-eight ram lambs, three ewe lambs, aud seven other rams of one and two years, in P. E. Island, and sold them to members of the society on three months' credit. The largest number of the lambs are fine animals, being chiefly of the Leicester breed. I have received an account of the weight of three of the lambs, on the 1st of December,—the first weighing 120 lbs., the second 105 lbs., and the third 95 lbs; these were not the best, but perhaps a little above an average.

Stirling Agricultural Society.

To meet the increasing wants of the society, they have this year imported from P. E. Island four ram lambs of the Leicester and the South Down breeds, and with those belonging to the society we expected to have had one in each of the eight sections in which the society is divided, but unfortunately one of those imported last year died.

This society has also purchased a boar of the Berkshire breed, a very good animal, and have sold him to one of the members, to serve the society one season.

To meet the arrangements of the Board, the society has disposed of the agricultural implements on hand from last year, by public auction, which resulted in a small loss to the society.

Pictou Agricultural Society.

Your society would express their gratiture to the Board of Agriculture for the deep interest manifested by them in the general agricultural interests of the Province, by the importation of improved breeds of horses, cattle, and sheep, and also of wheat and potatoes, and particularly for what of the latter they have sent to this society.

In accordance with a resolution of the society, passed at a meeting held on the 22nd of September last, there has been neither exhibition nor ploughing match, in connection with the society during the year,—the whole of the funds having been devoted to the purchase of stock.

In January last a young Berkshire was purchased by the society, and at the sale of the sheep brought from Canada, by the Board of Agriculture, which took place at Acadia Farm, in November last, one Leicester ewe and two Leicester ram lambs, and one Cotswold ewe, and one Cotswold ram lamb, were purchased at a cost of $193.

The property of the society in stock, therefore, consists of the five sheep referred to,—the two rams imported from P. E. Island in 1863, and the Berkshire boar,—all of which are distributed within the limits of the society, to be taken care of during the winter.

Your committee would beg leave to state, that this would, in ordinary circumstances, appear an extravagant over-expenditure of the funds of the society; they did, under existing circumstances, what they believed to be expedient and justifiable. They believed that no kind of stock was more appreciated nor more eagerly sought after, not only by members of the society, but by the farmers of the district generally, and as the sheep purchased were of the kinds generally approved, but also superior specimens of these kinds, your committee felt that they were not only conducing to the general interests of the community, but that they would thereby largely increase the roll of members of the society, and also, that by purchasing both ewes and rams of pure breeds, they would so increase the stock of pure blooded sheep in the district as in a short time to have not only a sufficient supply for ourselves, but also have to spare for other localities.

Maservelton Agricultural Society.

In September last a member of the society proceeded to P. E. Island and purchased a number of rams, at a cost of £24 2s. 1d.; the expense connected with their purchase will be seen in the annual account. But owing to the number of societies in the different counties of the province who had purchased rams previous to our society, the rams purchased by us were not of so superior a quality as we expected, and having still a part of our funds in hand we agreed to purchase one of the rams imported from Britain last summer,—and a gentle-

man in Halifax having kindly consented to attend the sale and act for us, we instructed him to go as high as £15, but as all the rams went above that amount, we failed in procuring one. We then appointed the President of the society to attend the sale of Canadian rams in Pictou, which he did, and purchased for us one of these, an animal superior to any of the kind ever brought to the county of Pictou. In looking at the stock of pigs kept by the majority, if not by all the farmers in our section of the county, we considered that they were a very inferior breed, and that there was ample room for improvement, and having still a balance of our funds in hand, we resolved to purchase a superior boar the first opportunity that offered; and a gentleman having informed us that a superior Berkshire boar could be purchased in Halifax, on reasonable terms, we engaged the services of that gentleman to purchase said animal, and have him sent to us by rail and express, to New Glasgow, to a person instructed to take charge of him.

Merigonish Agricultural Society.

The sum of $77 of the funds of the society was expended in the purchase of sheep.

We intended extending the balance in hand in the purchase of hogs, but were disappointed.

Caledonia and Kempt Agricultural Society.

As the season was so far advanced before our society was organized, and after waiting to know whether we would be acknowledged by the Board of Agriculture, there has not been time to act respecting the expenditure of the money, it being so near the time for the annual meeting it was thought best to submit to the whole society to decide upon.

We would also beg leave to recommend that the funds now in hand be expended in the purchase of pure stock.

That this meeting consider it best to wait until the quarterly meeting in March before making any purchase, and in the meantime to try and ascertain where we can obtain such animals as we require.

Barrington Agricultural Society.

We beg to report that we ordered our agent in Halifax to attend the sale of pigs and rams at Richmond Depot, but they were sold at a higher rate than we thought best to give at present.

Your committee would recommend that members renew their subscription for the ensuing year, and that the money so obtained, together with what is on hand, be expended early in the spring in the purchase of stock, more particularly pigs and sheep, seeds and fruit trees.

St. Ann's Agricultural Society.

Six rams and three ewes, improved breeds, have been just imported from Halifax, and are ready to be sold to the members of the society.

Middle River Agricultural Society.

This society has, for years past, improved the breed of cattle by the Durham and Ayrshire, and sheep by the Leicester; and this season they have imported two very fine rams of the Cotswold sheep, and one Berkshire boar pig from the stock of H. E. Deckie, Esq., of Annapolis county, which will make a considerable improvement in the breed of sheep and pigs.

Baddeck Agricultural Society.

We are in hopes that in the course of another year, as our funds are increasing and good breeding cattle are getting more numerous in the Province, we will have less difficulty in getting suitable cattle, sheep, and pigs for the use of our society.

Yarmouth Agricultural Society.

The society also has on hand one Cotswold ram, imported from Annapolis, cost $20.

A PROVINCIAL CANADIAN EXHIBITION.

EIR, that it is desirable and important to have Canada worthily represented at the exhibition to be held at Paris next year, is, I take it for granted, admitted on all hands. By what means we shall secure the best possible representation of the manufacturing products of the country, is, however, a fit subject for discussion.

In the official report of the proceedings of the sub-committee of the Board of Arts and Manufactures for Upper Canada, published in the last number of your valuable *Journal*, it is stated that the members are averse to the holding of a preliminary joint exhibition for both Provinces, from which to make a selection of articles to be sent to Paris. I think this is much to be regretted; and perhaps if the question were fully discussed and looked at from a Provincial stand-point, a different conclusion might even yet be arrived at.

The manufactures of the two sections of the Province have never yet been fairly brought into actual competition at any Provincial Exhibition, yet it cannot be doubted that, if advantage were taken of this opportunity, sufficient inducements would be held out to

secure the accomplishment of this, by many, long-wished-for actual comparison of the industrial products of Upper and Lower Canada. The spirit of emulation would then be rife, and it would arouse a feeling of enquiry which would lead to results that would be mutually beneficial to the manufacturers themselves, as well as to the country, through the improved character of many of its productions.

Articles made to undergo an ordeal of this kind, before being purchased for the Paris exhibition, would be much more likely to have that character of excellence about them, without which it would be a waste of money to send them.

A joint Provincial Exhibition held for this purpose would also remove the apparently very just cause of complaint that would be made of partiality and injustice, if the other course indicated in your last number were adopted, viz., that of making a list of the articles required, and the respective Boards authorized to contract with competent parties for their supply. In cases where there are several manufacturers of the same articles, it would be a very invidious task to select a favoured one out of the number, and thus by imputation, stamp him as the best manufacturer in his line; whilst his rivals in the trade might, and, if afforded the opportunity, most probably would have excelled his production for this special occasion. Competition is a healthy stimulant, and should be encouraged wherever practicable.

If a list of the kind of articles specially required were published, and it were announced that the best of each sent to a public exhibition would be paid for at its full value—that it would be sent to Paris—and that the maker would be entitled to any credit it would there receive,—we may rest assured there would be a superior collection of the manufactured products of Canada sent; but if the articles required are ordered by private contract, there will be no certainty that the selection will be the best the country can produce, or such as will reflect credit upon it.

Although there is no official information given as yet upon the subject, we may expect the space allotted to Canada will not be very large, and therefore the more reason that the greatest care should be taken that the quality of the articles selected is fully up to the highest standard we can attain.

These few remarks are made in view of the interests of the Province as a whole, and with the hope that you will accept them in the same spirit,

I remain, your obedient servant,

AN EXHIBITER IN L. C.

Montreal, Feb. 19, 1866.

FARMING AS A PROFESSION.

IN order to reach the highest success, the farmer needs, he must have an education; not necessarily a collegiate course, though that is good where practicable, but an education that will fit him for his own chosen calling. It was once thought that if a man was to be a farmer, he did not need an education—that it would only hinder instead of help him in the way of success. But, happily for the farmers, the prejudice against book farming is fast dying away. Ignorance can no longer successfully compete with scientific skill. An able writer in the RURAL (E. P. Vail, Esq.) has well remarked, that "the day is already dawning when farming, if made profitable, must be conducted on enlightened and scientific principles." Every farmer who elevates his calling, who considers it as a profession, and who wishes to stand high therein, can, with a little self-reflection, readily see that, without an education—without a knowledge of the scientific principles which nature almost invariably obeys—he cannot be eminently successful. He must either be satisfied with a low position, or acquire the knowledge which is absolutely necessary to insure success. This point being thoroughly understood, we now come to two difficult and important questions. In what does this education consist? and how shall it be obtained? That it does *not* consist in passing through a course at the fashionable boarding schools, as all who are acquainted with the manner of teaching, and of the graduates of these institutions will admit. That they teach much that is of use to a farmer, I will not deny, but I think they fail to give a thorough education in the common branches of knowledge, while paying attention to what are termed accomplishments. While all usefel knowledge is desirable, and it is well for every one to have a general education, yet it is important to remember that the period of human life is too short to enable any man, whatever his natural abilities are, to master all the different sciences. It is, then, of the greatest consequence to every man, when he is passing through a course of educa-

tion, that he study those sciences, and only those, from which he can derive the greatest benefit. Latin, algebra, and the higher mathematics, are frequently taught in our public schools, to young men to whom they will never be of any practical benefit; while geology, chemistry, and natural philosophy, sciences which it is desirable every farmer should study, and which would be useful to him all his life, are in a great measure neglected. The best and most useful education a farmer can have is, I believe, a thorough knowledge of the natural sciences.

We now come to the second question—How shall this education be obtained? Many farmers will probably exclaim, "An education is a good thing, but we are too old to think of any education ourselves; we must follow the old and beaten paths." To such I would reply, that it is "never too late to mend," and while the foundations of such an education should, if possible, be laid in early life, yet every farmer can obtain books and papers, and find time, during the long winter evenings, to learn much from them that will be useful to him in practical business. Those who are too old to pursue a *thorough* course of education themselves, should see to it that better facilities for obtaining it are placed within reach of the rising generation. Our school system should be so amended as to furnish, at least in the farming communities, where nearly all the boys will be farmers, an opportunity to study thoroughly the sciences which have a direct bearing on farming. Let the study of the Latin language be exchanged for the "Elements of Horticulture," and the higher mathematics — which, except for mental discipline, are worth nothing to a farmer—for the "Progressive Farmer," or a similar work. This would give boys a taste for farming, and they would then be qualified for their occupation.

The farmers are, and ever will be, the largest class in our country, and they have a claim for a public education which will fit them for their own business. Agricultural schools and colleges should be established, where those who have the means and the desire to pursue an advanced course in this department of learning, can have the opportunity. For the minister, deacon, and lawyer, a special and complete course of study in their several departments are deemed absolutely necessary. Should the young man who regards farming as a profession, and who wishes to excel therein, be satisfied with less? While science is spreading its glorious light over all the departments of human labor, and is fast doing away with the curse, "In the sweat of thy face shalt thou eat bread," let not farmers be the last class to be benefited thereby; but leaving ignorance with the buried past, seize upon every aid afforded in this unparalleled age, and build their hopes of worldly success upon that sure foundation, a thorough, practical *agricultural education.*

JOHN E. REED.

GET A HOME AND KEEP IT.

A LEADING object with every young man should be to secure for himself a permanent home; and for its greater stability it should consist partly in land, and up to a certain limit the more of it the better, if paid for. The house should be as comfortable and attractive as one has the means of making. It should be one the heart can grow to, and will cling around more and more firmly with each year. The owner should desire and purpose to keep possession as long as he lives, and his children should grow up feeling that there was one place fixed and stable for them amid all changes.

Americans are altogether too roving in their habits. We build houses cheaply, and pull them down without regret; or we sell out and move away half a dozen times in a lifetime, in the vain hope of bettering our condition. How much better to choose early in life, and then lay plans in reference to abiding there. Even though our gains be less than are promised elsewhere, a certainty should seldom be given for an uncertainty. "A bird in the hand is worth two in the bush."

Only those who have experienced it know how firmly a family become attached to their long-loved homestead. No children love home so well as those who have known only one. As the young become of marriageable age they should go out from the old homestead, feeling that it is to be the model after which their own should be established, and knowing that this will remain unchanged as long as their parents live, a place to which they can return, and where they shall be welcome. A pleasing writer confirms our doctrine thus:

"There is great gain in being settled down. It is two-fold. Each year accumulates the material by which labor is lessened. The rough channels of labor become worn

and smooth. A change involves a great loss, and rarely is there a corresponding gain. Time is lost, labor expended, money paid out, the wear and tear of removal is no small item, and above all, the breaking up of old associations is often disastrous in the extreme. Let the man who has a homestead keep it; let him that has none get one, and labor to render it a treasured remembrance to the absent, and a constant joy to those who abide in it."

SUGGESTIONS FOR FARMERS.

THIS is the proper time to reflect on our acts during the past year, and to lay plans to guide us during the one in which we have just entered; and, brother farmers, how many of us have neglected to make the capital we have invested in land, stock, and implements, even a safe one during the year just closed, and how few can say they have financiered everything to their perfect satisfaction, even at the high prices all our products have brought us. But a change is taking place, and low prices for what we have to sell will not figure up well against an increase in the wages of laborers, war prices for everything we buy, and an actual *cleaning out* of money drawers to satisfy the demands of tax-gatherers; and it is right for us all to think over these things, and ask ourselves how much of the neglect and carelessness, and consequent loss to us of last year, can with care and prudence be made to pay us well even under existing circumstances. Yes, how many of us *to-day* (thermometer 12° below,) are letting our stock seek its own shelter through the cold storms of winter, and seemingly trying to ascertain how small a quantity of poor, mouldy hay or straw can be thrown into the mud or manure for them, and still keep the breadth of life in them; and how few of us have prepared good, warm sheds or barns, with plenty of hay cut at the right time and properly secured, and with well arranged feeding-boxes, and dry, well-littered places to lie, with stock well and carefully assorted, with the strong and weak in separate apartments, so the "weak need not sigh for freedom and the strong strive for dominion." How many of us are starving our farms to death by letting our stock roam and graze the very life out of the grass, by exposing the roots to the cold freezing weather of to-day, and treading up the newly seeded land we cheated out of two-thirds the necessary quantity of seed at seeding time; and how few of us at last spring's seeding put the needed half bushel of grass seeds to the acre, or hauled out our manure a few weeks ago and spread it carefully on our grass-lands, thereby protecting the roots from cold, and at the same time nourishing the plants for a larger, healthier growth next summer.

In fact, how many of us are raising an inferior race of stock, that will eat as much as those worth twice the amount of money; driving said stock over bars half let down, thereby teaching them to be unruly, and making them of more trouble and of less value to us; letting our young orchards go untrimmed and unmanured in a stiff sod, binding them with an iron grip to the uncultivated and undrained earth, and shaking from older trees half-matured, knotty specimens, when fruit is as precious as were the "golden apples of the Hesperides;" letting our tools lie outdoors, rusting the iron and rotting the wood; neglecting to feed our fattening stock regularly, losing thereby half the gain when beef, pork, and mutton, are at war prices; keeping a worthless dog or two, eating up our earnings. And, in conclusion, how few of us are keeping our "lamps trimmed and burning," our farms, stock, and tools, in a good paying condition, and our household advancing in morals and intelligence, by introducing into it a few of the many excellent periodicals of the country.

GREAT DAIRY FARM.

THREE Vermonters—two named Shafter, and one named Howard, are, undoubtedly the largest dairy farmers in the world. They have a farm in Marion county, California, known as point Reyes Branch, on the coast, about twenty-five miles north of San Francisco, of over seventy-one thousand acres of land, and being bounded on three sides by salt water, it receives the benefit of the fogs and moisture of the Pacific ocean, which keeps the feed good for dairy purpose fully eight months in the year. The other thirty-one thousand acres is a wild, and in many parts a heavily timbered country, but some ten thousand acres of it is well adapted for sheep grazing; they having nine thousand running thereon at present, that thrive on the land the year round without care, except herding at night.

These farmers expect, within three years, to be milking upwards of four thousand cows "twice a day." Mr. Howard, who has been East this summer, to visit friends in his native State for the first time since he went to California has recently been inspecting the cheese manufactories in New York, Massachusetts, and our own State, with a view of building one on their farm. He has adopted plans for erecting one of a thousand cows, capacity, to be put in operation next spring, they being the pioneers there in that business.

But the making of butter is the principal business on the farm; the establishment of a cheese dairy of one thousand cows being an experiment, the result of which will influence future operations into this line. With such an example before them as a butter dairy of three thousand cows, we should suppose that the people of the young and growing State of California would not long import one-half the butter they consume, as at present, but would soon supply their own market, for Mr. Howard informs us that they make as good as there is made in the best dairies in California.—*Vermont Paper.*

WESTERN SORGO CONVENTION.

THE annual meeting of the Ohio Sorgo Convention was ably addressed by the president, Wm. Clough, Esq., who spoke of the important place which the new cane is gaining in Western agriculture. Mr. C. is thus reported:

The past season has been one of the most important and successful with the cane that has been experienced since its introduction among us. Thousands have planted the cane this year for the first time, and nearly all who have planted in former years have this year greatly extended their operations.

From the best sources of information at my command, I estimate that the quantity of cane planted in Ohio this season, was about twenty per cent. greater than last year, and the product about twenty-five per cent. greater. Taking Ohio and all the States west and northwest, I estimate that the amount planted was twenty-five per cent. and the product thirty-five per cent. greater than last year. The increase in the east was not so marked, and I do not feel prepared to express an opinion with regard to it, except to say that the sorghum movement has lost no ground in the east, but has steadily increased in favor with the people there as here, only a little less rapidly.

We have now reached a point in the development of this enterprise at which it is appropriate for us to take a higher stand. We have solved all the preliminary questions which arose upon the first introduction of the cane among us. We have demonstrated beyond question that it can be successfully grown in our latitude. During the nine years in which it has been cultivated amongst us, not a single disastrous failure has occurred. It has proved itself a more certain crop than wheat or corn. It thrives in soils of great diversity, and over a range of latitude as broad as that upon which our common Indian corn is cultivated. Those who have employed skill, neatness and appropriate apparatus, have demonstrated that the cane is capable of producing an excellent table syrup, and a sweetening adapted to many of the purposes for which commercial sugar was formerly employed. And lastly, all who have engaged in the business, either as growers or manufacturers of sorghum, have found that it was a profitable operation—that sorghum pays.

We should now take a step in advance, and that step, all will agree should be in the direction of greater perfection in the quality of the product. We have not yet developed the highest capacity of the cane for syrup, and have made almost no definite and well defined progress in the production of sugar.

While upon this subject, I cannot refrain from expressing my convictions that we cannot count with any confidence upon the production of sugar from our canes through the intervention of any of the magical modes or processes about which there are so many ignorant, fraudulent, and mischievous pretences. There is no royal road to sugar. Many of the most learned and accomplished scientists of the world have been employed for a half a century in the production of sugar from its various sources in nature, and the success attained in all cases has been measured by the scientific and practical skill employed in the operation, and in no case by legerdemain or mountebank performance. I have the utmost confidence that the farmers of the North will ultimately become their own sugar makers to the same extent that they are now the makers of their own butter and cheese; but this will be accomplished by the application of scientific principles to the whole practical opera-

tion. We need to test and determine the most successful variety of seed, the most appropriate soil and cultivation, and the best apparatus for the manufacture of the product. When we shall have become familiar with those elements of the art, and shall apply them with fidelity to the work, we may expect to produce sugar regularly, systematically; without them we may not hope to produce it, except accidentally, and in comparatively rare cases, as at present.

ADORN YOUR PREMISES.

IN this day of money-making, but little is cared for the outside show of farms, farm houses, suburban, or other private premises, except in and around large cities. I care not how large the farm or other homestead, or how small the adornment of the same, in a becoming and tasteful manner, only renders it more comfortable to the occupant, and more valuable when it comes into the market for sale. To this end, let the farmer plant walnuts, chestnuts, sugar trees, ash, poplars, and other handsome growing trees along his fence rows. Train up skirts of native forests near the house; leave clumps of various trees in the "clearing," for cattle to shade and shelter under. Whitewash the fences around the house, and the barn and other outbuildings also; lay down broad flagging of stone or wood all around the back yard—in the path to the barn, the spring, the meat house, the cellar, and the garden. To every one who owns an acre or even a *rod* of land outside of the building spot, we say, plant trees, shrubs, and flowers. What is more beautiful than a fine orchard?—what more healthful and profitable? What so captivates the eye as a lovely lawn or yard, dotted here and there with the dark foliage of a fir and pine—or even the common cedar? What more humanizing and delightful than the clumps of rose, hyacinths, dahlias, and honeysuckles? They produce a feeling of happiness and contentment that nothing else can. An arbor of fine old vines, or vines clambering up the wall, and over the eaves, bearing rich clusters of "Concords" or "Delawares," of "Catawbas" or "Hartfords," are alike a grand luxury to the eye and mouth! Who that can have them will longer consent to be without? Set aside a plat in your garden for "Russell's" and "Wilson's" strawberry, and gather bowls full of these crimson delicacies for your table, ere any other fruit is ripe. I believe it was Jeremy Taylor who said, "Doubtless, God *could* have made a better berry than the strawberry, if he had *tried*, but doubtless, God never *did!*"

The time is near when the adornment of our homes must be begun. Let all try to add something of beauty and usefulness to their homes, however humble, before another year passes. H. T. H.

Stanford, Ky.

THE FARMER'S FIRESIDE.

VERY often we hear farmers and other working people excuse themselves from attention to mental cultivation, by saying, "I have no time to read;" and true it is, that reading alone is not the only way to get knowledge—that is to say, the reading of books; for there is a sort of reading that to us is better and more instructive than the reading of books, just as there is a sort of preaching that goes down deeper into our soul than the formal dispensations of the pulpit; and the men or women who have understanding, will read that open book of men and events with the same profit of understanding, as they listen to the silent preachings of those providences which carry to their hearts the lessons of the wisdom, the Omnipotence, and the Love of God.

But it is not of these that we design to discourse now. They are open and free the whole year, and our rural readers can always profit by such ministrations. While the inclemency of winter drives the rural household to the domestic fireside, each will seek to do something, either to use, enjoy, or kill time. Alas! that any should be so destitute of resource in themselves as to be forced to this last sad expedient. Besides those small in-door labors of economy or invention, at which some people busy themselves, reading seems to be the natural concomitant of this season of partial leisure. In reading, as in eating, people display their peculiar tastes. Some will seize upon a book or a paper, and, sitting down all alone, will neither seek sympathy or share it with others. There they sit, sucking in like a sponge, but never giving out. Their sympathy begins with themselves, culminates in themselves, and ends with themselves. Alack! for the helpless wife or child that comes unbidden within the selfish orbit of such a man at such a time.

Most people, however, are more social in their habits, and enjoy both a book and a

dinner in congenial company. And why not? Even the horse and the sheep cling to the society of their fellows, and seem happier than when alone. As in labor, so in relaxation, much is to be gained by a uniform union of force. What will please and instruct one man, may as well please and instruct fifty men at no more cost; so there is an economy in knowledge as well as in power. And more too, for the very sympathy of contact gives a force to appreciation that no isolation can effect. This is what we mean: When you open this number of the Agriculturist, and all the family are ready to listen, and you read aloud to all this little chapter, or any other, if it is, as we hope to make it, worthy of your reading, every one of the listeners will enjoy it as well as if read especially for himself, with this added interest, that there is a reflection of theught and happiness from the very contiguity of mind engaged in the same contemplation. Here is the simplest illustration of what we wished to convey of the economy of mental forces. But oh! dear reader, could we who now pen these brief lines at our solitary desk, but divide and sub-divide onr mentality into ten thousand units, and go out with the sheets which bear this friendly talk to your firesides, thousands of miles asunder, and there become a part of each loved circle, as you read with a friendly or a critical eye, to get knowledge or to find fault, or to hear "What will this babbler say?" with what an ocean of testimony could we return to our present self.

Every family is a miniature republic, but here will be a still greater economy for some purposes of seeking knowledge, by the union of many families upon special occasions, for the wider dissemination of intelligence. Thus in every district the school-house may be made the rallying point where other knowledge may be gained than that of letters and figures for beginners. Maturer minds may commune with each other of the great interests of life, and an equalization of knowledge take place, by bringing the lower to the understanding of the higher, while the higher will lose nothing, but rather be the gainers thereby. Thus will you push the inquiry and development to a higher plain, in those departments which shall be of most benefit to the hearts and homes of you all.

Hog Cholera is prevailing to a considerable extent in Columbus, Ohio.

ONE-IDEA FARMING BY ONE OF THE OLD GUARD.

DID you ever observe a squirrel in a tin cage, with a revolving wheel attached to it; the apparatus put up in a country bar-room; the squirrel always, when in his wheel, on a keen jump, and always *at the bottom?* Did it ever occur to you, if squirrel would *hold on*, he would be part of the time at *the top*, supposing the gyration to go on?

In the human, the social, the *agricultural* squirrel cage, the gyration always goes on. There are enough uneasy fellows, who must always be on the jump, and always keep the wheel spinning; "argal," (as our moralising grave digger says in Hamlet,) if one wiser than his fellows *holds on*, the rest will propel him to the *upper side, half the time!* Q. E. D. Consider that point settled.

Tariffs and rumors of tariffs! speculations and rumors of speculations! foreign market! a hundred causes, are constantly affecting our markets, not only for agricultural gimcrackery, but for our great staples. Wheat, wool, cotton, tobacco, daily products, all staples that can be named, occasionally reach the point of over production. It is not easy to change the employment of the stock in trade and fixtures in a moment, and consequently the over production continues, and reaches a higher point. The business is clean overdone; prices cease to be remunerative; the accumulated surplus remains on hand to keep down the market. Panic then inevitably set sin. Every wiseacre is convinced that this particular branch is not only done up for the time being, but done up, as the boys say "for good." Every rat is for leaving the sinking ship sn the smallest chip he can find to make a craft of.

The water runs toward the lowest place. The agricultural low-place is soon discovered, or at least grasped at. Every previous over-producer makes a push for that. The old stock is sacrificed—the old fixtures are thrown away. If the low-place is dairying, every cow in the kingdom is bought up at an exorbitant price. If it is wool, the price of sheep instantly doubles. But mark! Every one of those who would have helped make over-production in one branch, (and three times as many more,) rushing together into the low place, they immediately make it the high place; the spot they have just left becomes the low place. The squirrel that held it on is at the top; the one that

jumped is *at the bottom!* Finding himself at the bottom, he jumps again, and (like the woman that spoke in meeting) *keeps* finding himself at the bottom. Q. E. D. Please consider *that* point settled.

The best farmer I know of always abandons a particular line or article of production, the moment it becomes the *rage*. He sells out *his* stock and fixtures to the eager recruits who are ready to pay double their value, and buys up *theirs* at half or a quarter price. Their abandonment immediately produce under-production, or scarcity, in the deserted branch; it requires its equilibrium, or rises above it; and he is soon ready to sell out again at double price to a new set of restless adventurers. That's the shrewdest kind of a squirrel! By some unexplainable physical anomaly, *he* keeps *top of the wheel all the time!*

I take it for granted I am not "rhyming to dull elfs," who cannot catch the moral of the foregoing without my making the "practical application," like a good old Puritan Domine in Cotton Mather's days, after reaching 137thly!

There is another kind of agricultural one-ideaism, equally deserving mention and *avoidance*. It consists in setting but *one bowl* out when the skies are expected to rain larks! Your whole farm is devoted to tobacco; the tobacco finds a bad season, or the market is poor. You have a poor show of larks! Division of labor is a good theory *in a shop*. But a farm is a little kingdom. It must be to some degree self-supporting *to be independent, or to be thrifty*. It is by no means worth while to try to force Nature. She won't *be* forced, if you try it. Canada can't grow oranges. Cuba is not famous for Kennebec salmon. Each will find it expedient, in the long run, to follow the bent of their "*nat'ral gifts*," as Natty Bumpo has it. If one has what the other has not, then *swap* and pay the boot! That is the logic of nature and common sense.

A farm is a kingdom. Every farm is physically, at least, a flat contradiction of the legal apothegm, that there can be "*no imperium in imperio*." Your farm kingdom must not, if you would *catch the larks*, be limited to one, two, or three products.

I grant that you must not have but two or three *main* staples of production. There is such a thing as *frittering*—spreading out like a river without a channel—and then the thirsty earth drinks up what the hot sun does not evaporate. In short, you set out such *little* bowls, that you wouldn't catch larks if they should rain plump upon them. They are not *big enough to hold a lark*.

But in the rough masonry of farming) as in the Cyclopean walls of the Grecian Ithaca,) the stones are not hewn into courses. There are interstices, chinks, to be filled. Your main agricultural staples are the big blocks. I propose agricultural "chinkers." Do you get my idea? I propose little bowls for little larks—"small holes for kittens." I am sure you get my idea!

I will descend or ascend to specifications. Nineteen-twentieths of the dairy men of New York do business about in this wise. Each has from fifteen to twenty cows. He has one span of horses to do the small amount of plowing or "teaming" of a dairy farm. He has swine enough to consume what may be termed the *offal* of the dairy. He has barn-yard fowls—a lonesome sheep to turn the churning machine. Besides these (and a cur and rats and mice) there is not another brute animal on three hundred acres! The saleable products, as well as the *human fodder* (year in and year out of *that* establishment are dairy and poultry products, an occasional beef or veal and pork—pork—pork (and potatoes.) Bowl No. 1 is the dairy product; bowl No. 2 is the pork; all the rest are pins and needles. Yet you look around that farm, and your eye at once discovers chinks. Yonder steep, briary hill, does not support cows. It would carry sheep. Yonder boggy "swamp pasture," where the wild grasses admit no intruder but the half-civilized red-top, does not produce the sweet golden butter, or the rich sound cheese. Two or three great hulking colts to supply the farm team, and give the farmer a serviceable cob to ride around when "shanks' mare" gets old and stiff, would nip the better of the sedges, mix it with an occasional lock of red-top, and "pronounce it good." These colts aforesaid, would hulk round the straw-yard in winter, and eat a world of rough stuff very nearly wasted by your genuine dairy men. Tom would have his colt to break and ride, and Sam his. By-and-by, when Sam and Tom went a sparking o' Sunday nights, they would *ride* like cavaliers, and not go poking cheaply on foot! The lad that goes a sparking on a spanking horse of his own, is the one that "brings down the persimmon!" *He* gets to be a boy, *as is* a boy, that bestrides a gallant four-year-old of *his own*.

Yonder is a downright swamp. Cut away a bit of its forest belt and force in some clover. Surround it with a goose and a duck-proof fence. Buy half a score of geese and ditto of ducks, and there empound them. See how those ducks will "*shell out*" pretty decent eggs, (where those of the hen and pintado are not to be had.) But only think of roasted ducks done to a turn, and fat young Christmas geese in royal abundance—(my mouth half waters, albeit I ate supper but an hour since.!"

N. B.—Let the ducks have fanciful topknots on their heads, and the geese be of the most beautiful varieties, provided they are no *worse* for it. The reason I will tell you soon.

Yonder (not far from the house) is a spot not appropriated, because cows, or horses, or swine placed there, would be *misplaced*, in the way, and some of them would come "between the wind" and the womenfolks' "nobility," now and then. In short, *that* spot can't be devoted to the attainment of filthy lucre, unless it comes from some article or ornament of luxury. Run a trench round it three feet deep, of only the width of a ditching spade. Fill this with the pebbles of the farm unfit for walls. Clap a low fence on top of it, plain or fanciful, as the cook's recipes say, "according to your taste." Stock this with the large lop-eared rabbits, that will weigh ten or fifteen pounds on the table, that are as sweet as a chicken, and that you can have for the table, without disproportionate loss (as in the case of chickens) at all periods of the year. Mind they be pretty, properly marked, with the genuine "butter-fly smut" on their noses, etc.

If your farm is dry upland, be sure you raise *fifty* turkeys per annum. Have a beautiful yard of the best and most beautiful poultry. Let it be the aristocratic Dorking, the saucy Game, the glossy Spaniard—anything, in a word, but—but—the great u—st—y Asiatic Shanghai (variegated into *varieties* by importing sea captains, after the name of every Asiatic seaport where the miserable brutes were taken on board.

These are but *examples*. More bowls, or different bowls, could be set out according to circumstances of climate or position.

Now let's sum up. Our farmer, who lived on bread and milk and pork, by "chinking up," as I have proposed, adds to his larder (and *market wagon*) mutton, lamb, geese, ducks, rabbits, etc., etc. The good wife has wool to make into those even soft winter stockings, under-flannels, and pin-money. Every boy has a colt to go sparking on, and "dad" can ride when he gets tired.—THERE IS TWICE AS MUCH TO LIVE ON AND TWICE AS MUCH TO SELL FROM THE FARM.

These are weighty considerations, but there are others quite as weighty. The boy with his colt and his skipping rabbits, his beautiful poultry (*that's* the reason why I wanted crests on the head of the ducks!) and pets of all kinds to "chink up" his spare hours with, and occupy his thoughts and affections, grows up thinking that home is about as pleasant a place as the streets of the village, the bar-room, the store, the grocery, or places of low amusement, like —like—no, I won't specify, where there are so many, "each idle, all ill; and all the same."

I hold it a part of good husbandry to grow up a good breed of men. He is not the best farmer who raises good pigs, and scrubs of children! The moral and material of the best farmer, work hand in hand.

FARM OPERATIONS.

ON SAVING MANURE.

A CORRESPONDENT of the English Agricultural Gazette speaks thus of the three ways in which alone manure is perfectly saved, viz:—

1st. The plan now general over the better-farmed counties, of ploughing in fresh manure on the autumn stubble, in preparation for the succeeding green crop. 2d. The plan of liquefying the whole exuviæ for distribution by steam power and iron pipage over the land. 3rd. The plan explained by Lord Kinnaird of having the manure made in covered court-yards. He tsstifies to the excellence of the third plan. The droppings and soiled litter of stall-fed cattle, and the same from the work-horse stable, are daily thrown into a walled and covered pit, care being taken that they are intermixed. A dozen feeding pigs are kept in the pit; any loose litter there may be found lying about, together with road scrapings and odds and ends of animal and vegetable refuse, are thrown in; the pigs

mix and incorporate the whole well together. From time to time liquid from the manure-tank is pumped in; and thus we have generally a deposit of a considerable quantity of well-made manure at hand, to supplement the dung heaps when they are exhausted.

These (the dung heaps) are managed on a system which is efficacious. The manure is carted out as the boxes become full, and thrown out of the carts into a heap of 5 feet in height by 12 feet broad. As we advance in this building we follow with a cover to the top and sides of clayey mould. This cover is at first about 6 inches thick. The still open side, to which we are adding admits a small degree of atmospheric action, which induces a gentle heat. When this has gone on for 3 or 4 days, we add 3 to 6 inches more clay or soil, over which we pour dilute urine. This keeps fermentation going on in the heap, the gases which have to permeate the clay ere they can reach the atmosphere, and the now well known absorbtion of ammonia by aluminal earth, prevents any waste. Indeed, with manure taken from covered boxes, there will not be any escape of vapor from the clayey covering till the dilute urine is plentifully supplied; even with manure made in courts exposed to rain, there will be an escape of nothing but of watery vapor; a loss which is a gain, as there is less weight afterwards to cart on the ground.

In 10 days after the heap has been made, it will, if it has been properly attended to as above, be fit for using in bean or potato drills, being soft and unctuous; it is cooked in its own steam. Should it not be required for a month or longer, all that is necessary is to give it a coat of 6 inches more clay or mould, and it stands ready to be cut up when wanted. I find this system to work exceedingly well. I am satisfied that from 70 loads of manure, carted out and covered with 30 loads of clay, I have a larger store of fertilizing elements, than I should have from 100 loads of similar manure carted out and trenched up in the old mode to ferment.

This conservative power of clayey loam over the fugitive products of the rotting process in the dung heap, is a point of great agricultural importance; and wherever there is any collection of fecal matter which it is desired at once to save and disinfect, this is the best material to mix with it for the purpose.

Teach your children self-government.

CHICCORY.

AN article in one of your late papers recommends the raising of chiccory for coffee, as an experiment. Last spring I bought, at your office, a paper of seed—sowed about one-half of it some time in the latter part of May, about as I would sow carrot or parsnip seed. I raised enough for my own family for the year, besides giving some to most of my neighbors, to have them try it. I want no better coffee than pure chiccory makes. I wash and slice the roots, then dry them, and brown them, as any other coffee, and break them into small pieces, and not grind them, but use them a second time. In this way the coffee needs nothing to settle it, but it will be as pure an amber color as any one can desire, and the flavor is as good to me as the best Java.

Clinton, N. Y. S. P. L.

FLAX CULTURE.

THE flax plant has the power of thriving to a more universal extent than almost any other plant known. It grows and thrives under almost every degree of temperature incident to vegetation, in all countries, from the neighborhood of the tropics to the northern polar circle, wherever the air is not chilled by mountainous elevations, maintaining a healthy condition, varying only with occasional peculiarities of the atmosphere. This plant shows a remarkable tendency to seek littoral regions, as best affording the necessary supply of moisture, in which its fibre attains its most perfect quality, as seen in the entire coasts of the British isles, the adjacent regions of the great lakes of North America, both in Canada and the United States. Cotton, as compared with flax, is a delicate plant, it being capable of being produced only under certain conditions of climate, in respect to temperature, sunshine, rain and moisture, during certain seasons of the year, and a peculiar composition, formation, elevation, aspect, etc., of the soil; and that it may produce fibre of length and structure suitable for the finer class of goods, proximity to the sea is necessary. These conditions prevail in so limited regions, that the requisite amount of raw material must ever be insufficient to supply the increasing demand. To supply this deficiency, a more general and extended culture of flax, with its various conversions, is desirable. Properly managed, in connection with the

other labors of the farm, and with reference to future convenience and benefits, perhaps there is no individual crop that will give more ample remuneration for the outlay, or requires less skill and attention. An occasional breadth of flax would yield to the farmer as profitable a return as roots, hay or grain, where due care is had in assoilment, rotation, good tilth, with the proper manuring for cereal crops of a healthy vigorous growth.

In order that the crop may become more generally cultivated, and take its proper rank in agriculture, the old modes of preparation, rotting or steeping the straw, drying, etc., and divesting the fibre of the woody parts by breaking, scutching, etc., should be transferred from the farmer to the manufacturer, who is supposed to be especially qualified with the requisite knowledge, skill, necessary fixtures and appliances, to do the work more successfully and economically, thus relieving the farmer of the trouble and risk liable to be entailed on the subsequent manipulations of the crop. It might be well for capitalists and agriculturists to give this subject of division of labor the attention its importance seems to demand; by so doing manifest and important benefits might be derived; new resources would be added to the country; a more diversified and improved agriculture would necessarily result; labor, agricultural and mechanical, would derive great advantage, while manufacturers, merchants and others, would be equally profited by their industry and investments.

The flax plant is a hardy annual; when growing wild, attains a height of about eighteen inches, but when grown to perfection under proper culture, attains a height of two to four feet, with slender, tapering roots, running deep into the ground; a slim stalk, hollow near the root, and branching near the top; the bark of a greenish brown color, containing the fibre, which when dressed out is usually called flax. The leaves are linear-lanceolate, and with the stem smooth. The flowers which grow in loose panicles, are about an inch in diameter, of a beautiful pale blue; the parts five in number, and very regular; these are followed by yellow globular capsules, divided into five cells, each cell containing two seeds, which when ripe present a smooth shiny appearance. The stem consists of the cuticle, covering a close network of fibres held together by a glutinous substance, which incloses the pith or woody part, called by flaxdressers the "boon." The cuticle is composed of a resinous or gummy substance similar to that which holds the fibres together, and is nearly insoluble in cold water, but when the water is warmed suitably it separates readily; this process is commonly known as "rotting." For this reason steepers usually select a pool unsheltered—exposed to the mollifying influence of the sun's rays—in which to steep their flax straw; the object in steeping being to soften or separate the filaments to the greatest extent, which makes fine flax. Too long steeping tends to weaken the fibre, and too little gives it a coarse and harsh appearance. The fibres are quite unlike those of cotton—resembling capillary glass tubes, while cotton fibres present an appearance not unlike narrow, twisted ribbon, with occasional joints. There are three qualities usually recognized in the length of the fibre—the middle, root end, and the top of the plant. That at the root is coarse, harsh, and strong; the top is fine and weak; that taken from the middle of the stalk is best, neither coarse or fine. Sometimes the fibre is thus divided and assorted for convenience in manufacturing.

Time for Sowing the Seed.

As flax naturally requires a rather moist atmosphere, it is desirable to sow the seed at that season of the year when the atmosphere will furnish the greatest quantity from the sowing to the maturity of the crop. Early spring and summer seem to be best adapted in this respect in a northern climate; therefore seed should be put in the ground as early as it can be worked and well prepared, after the fear of hard frosts is past. The plant being quite hardy, light frosts do not seem to affect it as less hardy ones are.

Soils.

As shown, the flax plant has an extended range of climate; so also it may be cultivated in a variety of soils, especially if new to it. The soil generally conceded as best, is a deep rich loam containing the greatest possible variety of ingredients, dry, and friable, free from weeds and seeds, or made so by previous culture. A departure from a loam so as to allow a wide range is allowable, and very good crops may be realized. Heavy wet soils, with retentive subsoils, as well as dry sandy ones, are illy adapted to it. On the former the flax is apt to mildew and rot; on the latter to dry up before attaining full growth; therefore on neither should its culture be attempted. A natu-

rally wet or retentive one may be rendered suitable by thorough subsoiling and underdraining, two or three years previous to attempting flax culture upon it.

Preparing the Soil.

No crop will better repay fine, careful preparation of the soil than this, whether it be raised for fibre or seed. The soil should have been previously made rich by deep culture and high manuring, as well as perfectly freed from weeds and their seed, as they injure the crop in any and all stages. A clay, or gravelly soil, should be plowed deep and well in October or November; lighter soils should be plowed earlier to destroy weeds, etc. The action of the weather, and frosts during winter, have an ameliorating effect upon the soil. In the spring, as soon as the ground is sufficiently dry to work well, plow again with a narrow furrow slice, using care not to make any balks; leave the furrows straight and even behind. After plowing, harrow it well, going at least twice in a place; then roll it to give a smooth and even seed bed, where the seed will be likely to be covered to a uniform depth. Having thus prepared the soil by reducing it to the finest possible state, proceed to

Sowing the Seed.

The seed, which should have been previously selected and cleaned by passing it through a proper sieve, or twice through a fanning mill, to clear it of all foul seed, should be plump, bright, shiny and heavy. Divide the seed into two equal parcels and sow broadcast—one half one way of the field, and the balance crossways, using care to spread it even. The seed being smooth and slippery, great care is necessary to keep it from going in bunches; by sowing both ways of the field this end is better accomplished, and the seed more evenly distributed. The quantity of seed required to the acre, depends upon whether the crop be raised for seed only, for both seed and fibre, or fibre. In the first place a less quantity of seed will answer the purpose, giving the plant a chance to branch and spread, which gives a coarse, knotty fibre, fit only for the coarsest twines and goods: in such cases three pecks will be found sufficient. Where fibre and seed are both the object, six to eight pecks per acre will be required; where very fine fibre is desired, a larger quantity of seed is needed, to cause the plants to come thick, thus giving a very fine fibre. The seed being thus spread, go over the ground with a very light seed harrow, with short, fine teeth, set near together, both length and crossways of the field. This will leave the seed covered uniformly, and prevent it from falling into rows, as liable when harrowed but one way.

W. H. WHITE.

TIME OF CUTTING OF TIMBER.

SOME time since the question was started through the columns of the CULTIVATOR, whether some pieces of ash, and walnut timber become worm eaten whilst others do not, depended on the time they were cut or the difference in the timber. In reply to my inquiry, one correspondent suggested that timber cut in June would not be thus affected. Some months after another stated that timber cut in Oct. or Nov. would escape thus being injured. The latter seeming the most probable, a year since, on the 29th day of Oct. a tree was cut and part of it set aside for the purpose of testing the matter. Upon examining the same a few days since, the timber appeared to be perfectly sound and firm, whilst the bark adhered closely to it. So far as one trial goes, the question appears to be answered. More was cut in Nov. last for further trial. Some trees that were cut, split and piled for firewood last March, are so much worm-eaten as to make it dirty stuff to handle, and has probably destroyed one-eighth of its value. If upon further trial my observation proves to be correct, would it not pay to have trees that are designed for firewood for another year, cut at the present time? At any rate it is easily tried.

R. S. T.

[We thank our regular and practical correspondent for giving us his experiment, as above, in brief words, dealing, as he usually does, with what is, and what has been, rather than with theorising to show what should be, but too often is not.]

BREEDERS' DEPARTMENT

WHY HOGS EAT ASHES, &c.

Mr. Mechi, of Tip-Tree Hall, England, has discovered that pigs, when shut up to fatten, are fond of cinders, and improve in condition by eating a certain portion of them every day. Some persons are unable to account for this singular propensity in swine. Poultry are very fond of egg-shells,

lime, sand, etc., and it is well known these substances are necessary in order to form the shells of egg, and to furnish materials for the bones of fowls. Now it is reasonable to suppose that swine eat ashes and cinders for the purpose of supplying materials for their bones, and this singular instinct for animals so low in the scale of intelligence, is truly wonderful, for ashes contain the ingredients which are necessary to form bones, viz: clay, silica gelatinized and made soluble by fire. When hogs are at large, they take in clay and silica with their food, and eat bones and roots which contain the necessary ingredients; but when they are pent up they endeavor to supply the materials necessary for keeping up their frames by devouring ashes and cinders. Let them have plenty of them.

POINTS OF A GOOD HOG.

IT may not be amiss to group together what is deemed desirable under this head. No one should be led away by mere name in his selection of a hog. It may be called a Berkshire or a Suffolk, or any other breed most in estimation, and yet, in reality, may possess none of this valuable blood. The only sure way to avoid imposition is, to make *name* always secondary to *points*. If a hog is found possessing such points of form as are calculated to ensure early maturity, and faculty of taking on flesh, one needs to care but little by what name he is called; since no mere name can bestow value upon an animal deficient in the qualities already indicated.

The true Berkshire—that possessing a dash of the Chinese and Neapolitan varieties—comes, perhaps, nearer to the desired standard than any other.

The chief points which characterize such a hog are the following:—In the first place sufficient depth of carcass, and such an elongation of body as will insure a sufficient lateral expansion. The loin and breast should be broad. The breadth of the former denotes good room for the play of the lungs, and, as a consequence, a free and healthy circulation, essential to the thriving and fattening of any animal. The bone should be small and the joints fine—nothing is more indicative of high breeding than this; and the legs should be no longer than, when fully fat, would just prevent the animal's belly from trailing upon the ground. The leg is the least profitable portion of the hog, and no more of it is required than is absolutely necessary for the support of the rest. The feet should be firm and sound; the toes should lie well together, and press straightly upon the ground; the claws, also, should be even, upright and healthy.

The form of the head is sometimes deemed of little or no consequence, it being generally, perhaps, supposed that a good hog may have an ugly head; but the head of all animals is one of the very principal points in which pure or impure breeding will be most obviously indicated. A high-bred animal will invariably be found to arrive more speedily at maturity, to take flesh more easily, and at an earlier period, and, altogether, to turn out more profitably than one of questionable or impure stock. Such being the case, the head of the hog is a point by no means to be overlooked. The description of head most likely to promise—or, rather to be the accompaniment of—high breeding, is one not carrying heavy bones, not too flat on the forehead, or possessing a snout too elongated; the snout should be short, and the forehead rather convex, curving upward; and the ear, while pendulous, should incline somewhat forward, and at the same time be light and thin. The carriage of the pig should also be noticed. If this be dull, heavy, and dejected, one may reasonably suspect ill health, if not some concealed disorder actually existing or just about to break forth; and there cannot be a more unfavourable symptom than a hang-down, slouching head. Of course, a fat hog for slaughter, and a sow heavy with young, have not much sprightliness of deportment.

Color is, likewise, not to be disregarded. Those colors are preferable which are characteristic of the most esteemed breeds. If the hair is scant, black is desirable, as denoting connection with the Neapolitan; if too bare of hair, a too intimate alliance with that variety may be apprehended, and a consequent want of hardihood, which—however unimportant, if pork be the object—renders such animals a hazardous speculation for stock purposes, on account of their extreme susceptibility of cold, and consequent liability to disease. If white, and not too small, they are valuable as exhibiting connection with the Chinese. If light, or sandy, or red with black marks, the favourite Berkshire is detected; and so on, with reference to every possible variety of hue.—*Jennings.*

WEANING PIGS.

THE age at which pigs may be weaned to the greatest advantage, is when they are about eight or ten weeks old. Many, however, wean them as early as six weeks, but they seldom turn out as well. Newly weaned pigs require five or six meals in the twenty-four hours. In about ten days, one may be omitted; in another week, a second; and then they should do with three *regular* meals each day. A little sulphur mingled with the food, or a small quantity of Epsom or Glauber salts dissolved in the water will frequently prove beneficial. A plentiful supply of clear, cold water should always be within their reach. The food left in the trough, after the animals have finished eating, should be removed, and the trough thoroughly rinsed out before any more is put into it. Strict attention should always be paid to cleanliness.

BLOOD WILL TELL! "CAPT. McGOWAN" TROTS TWENTY MILES INSIDE AN HOUR.

ON the P. M. of the 31st ult., the thorough-bred gelding, Capt. McGowan attempted on the ½ mile course of the Riverside Trotting Park the feat of trotting 20 miles in an hour, and accomplished it in the unprecedented time of 58 minutes and 25 seconds, making the best time on record. A few minutes before the time for the trot, Capt. McGowan appeared upon the track, harnessed to a light gig, with a careful driver, J. J. Bowen. The judges, Robbins, Marshall and Morrison, gave the word, and the Captain at once started. For the first ten miles he was tightly held in by his driver. At the end of 10 miles he was, to appearances, as fresh as when he started. Not a word was said to the gelding, nor was he in the slightest manner urged during the trotting of the first 15 miles. On the last half of the 17th mile he broke for the first time; it was said that he was then purposely brought up by the driver. His best mile, as seen by the summary below, was the 6th, which he trotted in 2 43¼. The crowd remained quiet till the gelding came easily down the last home stretch, when a loud cheer for Captain McGowan arose from hundreds of delighted spectators. As soon as the trot was ended the people flocked around to examine him and see if he showed signs of hurt. The following table gives the time of each half and whole miles trotted.

Half Miles.	Miles.	Aggregate.
1.....1 27¼	1.....2 54	2 54
2.....1 26¾		
3.....1 26¼	2.....2 53	5 47
4.....1 26¼		
5.....1 27¼	3.....2 54	8 41
6.....1 26¾		
7.....1 24¾	4.....2 50¼	11 31¼
8.....1 25¾		
9.....1 26¼	5.....3 05¼	14 36½
10.....1 38¾		
11.....1 17¼	6.....2 43¼	17 20
12.....1 26		
13.....1 26	7.....2 53¼	20 13½
14.....1 26¼		
15.....1 22	8.....2 52¼	23 06
16.....1 30¼		
17.....1 27	9.....2 51¾	25 57¾
18.....1 24¾		
19.....1 26	10.....2 48	28 45¼
20.....1 22		
21.....1 24¼	11.....2 52¼	31 38¼
22.....1 28¼		
23.....1 28	12.....2 55¼	34 33¼
24.....1 27¼		
25.....1 28	13.....2 57	37 30¼
26.....1 29		
27.....1 30¾	14.....3 03	40 33¼
28.....1 32¼		
29.....1 30¼	15.....3 02¼	43 35¾
30.....1 31¾		
31.....1 33¼	16.....3 04¼	46 40
32.....1 31		
33.....1 28	17.....2 54¼	49 35¼
34.....1 27¼		
35.....1 27¾	18.....2 57¾	52 32
36.....1 29¼		
37 .....1 28	19.....2 55¾	55 27¾
38.....1 27¾		
39.....1 29¾	20.....2 57¼	58 25
40.....1 27¼		

The feat of trotting 20 miles in an hour on a half mile track was never before accomplished. The two notable trotters, Trustee and Lady Fulton, are the only animals among the large number of famous American and European horses that performed the feat on a mile track. Both horses took more time in which to trot the 20 miles than Capt. McGowan. Captain McGowan, in a quarter of an hour after he had finished his task, was brought again upon the track, and walked up and down, and appeared in good condition.

What say now those who on all occasions stoutly maintain that thorough-breds are anatomically incapacitated to trot? Let them now call to mind Dexter, nearly pure, and Capt. McGowan, a thorough-bred, the best time trotters on record. The physical demonstrations of such theorists, that thorough-breds are incapacitated to trot, may be put on record with the scientist's demon-

stration that a steamer could not carry coal enough to cross the Atlantic Ocean.

TALK ABOUT HORSES.

THE equine family are divided into three grand divisions: the draught-horse, the roadster, and the thorough-bred. They are classed into several sub-divisions, such as the dray, wagon, and plough horse; the carriage, buggy and saddle-horse; the cavalry, hunting and race horse. —They are bred for the particular work for which they are required. The draught-horse is for moving heavy weights, as his name implies. He is of Flemish origin, and was extensively imported and bred in the ages of English history. Statutes were passed in Parliament encouraging the raising of large, powerful horses, with penalties imposed for their violation.—It went so far as to fix by law the standard of height. The result was a large coarse draught-horse, fit only for slow work and argricultural pursuits.

The thorough-bred descended from Oriental blood of the Arabian Turk and Barb, domiciled in England. They took their origin from racing. Those that exhibited the most speed on the race-course were selected to breed from, and their produce were preserved for the sports of the turf. Much is due to the early patrons of the turf for the great speed and noble form of the high-mettled racer. The authentic and most famous progenitors of the modern racer are the Byerly Turk, Darley Arabian, Godolphin Barb, and Royal mares. From these spring the most celebrated race-horses in England, from which the best American horses derive their genealogy. The road-horse is a grade between the thorough-bred and the common horse. Those with any pretensions to breeding are highly esteemed for their superior action and great power of endurance. The value of the horse is impaired by putting his powers to the test before he is fairly matured. He may exhibit wonderful speed at an early age, but will not be able to maintain the reputation he has acquired. His bones and muscles are not equal to the call made upon his strength. He gets weakened, "trained off" at a premature age. "Speedy cuts" over-reach. Hitting, tangling, and other defects of hereditary weakness, result frem over-taxing their motive powers. A horse cannot be called upon to put forth his utmost exertions till five or six years old, without endangering his future usefulness. His joints have not attained their growth, nor are his muscles wired up with full-developed tendons till his seventh year. Young animals possess speed, but they are not able to carry weights. How many young colts that have been driven down to low time with weights up, have alterwards remunerated their backers, or maintained the prestige of their early engagements?

The safety of the horse as a hackney or roadster depends much upon his breaking-in. Firmness mingled with kindness has seldom failed to subdue the most wild, obdurate colt. Fear is essentially the attribute of restlessness and vice. It is the effect of brute force. Remove the cause, and the conviction of friendship will follow as the consequence. A trial of that strength will not accomplish it, because the beast will learn that he is stronger than man. He will respect the lesson in every battle with the whip. Confine the colt with a strong harness, and subdue him by the force of reason. If the colt refuses to go, make him stand still as a punishment. If he is determined to run away, strap up one fore leg, and let him run; he will soon give up the chase on three legs. If he goes in a circle, give him the benefit of a full circle, he will soon learn that a straight line is the shortest road between two objects, and will submit to the will of his driver. Nine horses out of ten will soon become sick of these penalties, and become kind and obedient servants. The cavalry and circus horses are taught their curious feats by generous encouragement. Give a dog meat for performing a trick, and he will perform it as often as you hold out the reward. To train the horse to catch in the field, we treat him to what he most craves. Similar acts of indulgence will teach him other acts of obedience.

The hard, muscular horse, low on the legs, with deep girth round the frame, will endure the most labor. If he has the flat, firm, sinewy leg, with the arms and thighs well let down, he will be a good traveller. The compact form with roomy chests for the lungs to play freely, are generally good feeders and lasters. Height is opposed to moving heavy weights. Lumbering bulk, set upon long legs, is incapable of great muscular exertion. We must adopt, for travelling, the long barrel with short back, that gives slanting shoulders and hips for motive power, in short, the form of the

greyhound or antlered monarch of the forest.

In the subdivisions of the horse, the decendants of the Oriental courser are the cherished devotees of the sporting world. They are esteemed for their daring leaps in the hunting field, They are revered for their prowess upon the turf, and almost venerated for their devotion amidst the smoke of battle and the clash of arms.—*Cor. Wilkes' Spirit.*

TAKE CARE OF THE CALVES.

A MATTER which is easily done, but generally neglected. The calves are tender, innocent things, and are sure to be pushed about if left with the herd. The barnyard is a bad spot for them, especially in the cold days, when the cows are disposed to be "ugly." Then the calf is apt to fare the worst for it. The cold then cramps it up and enfeebles it (it is its first winter), and it will soon be over come and done for. This is the case, shall we say, generally? Calves suffer more than any other part of our stock, unless it is the decrepit sheep.

Evidently it is not the place to keep calves with the cows and general stock of the yard.—They must have a place by themselves; be fed alone, together; be kept together. Then they are free, and there is no fear to prey upon them. They are happy and independent, and the good treatment will show out of their eyes, and in the young cow-breath they will exhibit. They will grow—winter will be but a continuance of summer in this respect—which we all know is not the case generally. The aim generally is, to *keep* them through the winter—not grow them during the period, but save them through till summer; then the grass will make them grow. Thus we depend upon the summer for the growth of our stock—one of the greatest fallacies in the world; fatal, injurious, suicidal, both to man and beast. The winter should not interfere with the growth of our stock—particularly with the calves, which are more susceptible to drawbacks.

A calf wants tender but nutritious food. —Young grass, well seasoned, makes the best hay. Corn-stalks well cut up, are relishable and good; but the stalks should be green cured—fodder corn with fine stems. The two mixed are excellent, though either will do, hay being the best for a general or regular feed. A dusting of oatmeal is a wonderful helper—but is not needed where the calves are healthy and hardy, and open the winter in that condition. The oat is preferable to corn—indeed to any grain for young stock. It is the muscle-forming food, and adds to the *growth*, not the fattening of stock. Growth is what is wanted in calves, and not fat, or just enough for healthy support.

Young hay then (timothy best), mixed or not, with corn-stalks, tender and young with a sprinkling of oatmeal. Other grain will do, but is not so good; corn is perhaps the most objectionable—but is most used, because most available, being in the West omnipresent. This, however, should not tempt; for it is of great inportance that we raise our young stock in a careful manner, as what they lose in growing time can never be replenished. That is gone to the detriment of the cow or horse, or whatever it may be.

Besides the feed, there must be warm quarters for the calves, or they will suffer, and that materially. As has been said, they are not used to the winter; they are tender; they have not the vigor of constitution or digestion of older cattle; they are helpless and simple, and they need nursing Warm quarters therefore are a great requisite for these tender things; freedom from the assaults of the stock of the yard, another; good tender food the third; and lastly, regular feed—and that oftener than with old stock. This in consequence, partly of habit and partly of a lack of disposing of a proportional amount of food in comparison with cows.—*Rural World.*

WINNING AND BEAUTIFUL SOUTHDOWNS.

THE sheep which attracted most attention at Smithfield were Southdowns. The first prize in the class, with the silver cup for the best Down sheep, was carried off by Lord Sonds. The Elmham flock has only once been exhibited before out of Norfolk, saving at foreign shows, yet the present success proves what a high character pertains to sheep bred from Henry Overman's and Jonas Webb's stock. Splendid sheep these are, with a greater size and weight and far better backs than Lord Walsingham's, and weighing on an average 224 lbs. per sheep, while the Merton wethers weigh on an average only 209 lbs. per sheep. This lot we take to be the gem of the show, and while your eye and hand approve their form and mutton, if you are a judge, you are

sure to admire them even if you are not. Critic or not, you cannot withhold admiration from the even character of the beauties in this pen—the exact similarity of each animal to his fellow in form, style, color and expression of countenance! This alone is a rare merit, irrespective of the excellence of the individual sheep; as the feeder experiences more difficulty in securing a level set of wethers than a fowl fancier does in matching pullets for a show.

COWS NEED EXERCISE.

THE custom of confining cows to the stanchions for weeks or months without exercise, has of late found numerous advocates, on the ground that thus kept they will lay on more flesh and give more milk. A recent writer on this subject says: "Such cows may give more milk and lay on more flesh, but at the expense of health and vitality. There is not a respectable medical authority in the universe that dare recommend the dispensing with daily exercise in the open air, for man or beast, where health and physical development are sought. Horses for the race-course, and men for the ring, are subject to severe and regular exercise. Weakness and incapacity are induced by confinement. Beware of sacrificing indispensable ends to temporary profits and convenience. Provide warm sheds and well ventilated stables, with bedding, and then feed well, groom well, and furnish plenty of soft water, and opportunity every day for free exercise of at least two hours."

RULES FOR MANAGEMENT OF COWS.

NEVER buy a cow from a dairyman, for if he is a good manager he will sell only his poor animals.

To determine which cows are best for keeping, try their milk separately, and weigh their butter—for sometimes a cow may give much milk and little butter, and *vice versa*.

Cows should run dry six weeks before calving—if milked closely the calves will be poorer.

A cow newly come in should not drink cold water in cold weather, but moderately warm slop. Calves intended for raising should be taken from the cows within a few days, and they will be less liable to suck when old. Feed them first with new milk for a time, then skim milk, then sour milk, taking care that all changes are gradual, by adding only a portion first; add gradually a little meal.

Calves well fed and taken care of, with a quart or two of meal daily in winter, will be double the size at two years they would have attained by common treatment.

Heifers thus treated may come in at two years old, and will be better than neglected animals at three, and one year of feeding saved.

Hearty eaters are desirable for cows, and they may usually be selected while calves. A dainty calf will be a dainty cow.

Heifers should become accustomed to be freely handled before calving, and drawing the teats.

They will then not be difficult to milk. Begin gradually, and never startle them.

In milking cows divide the time as nearly as practicable between morning and evening, especially at time of early grass, that the udder may not suffer.

Persons who milk should keep the nails cut short—animals are sometimes hurt with sharp nails, and are unjustly charged with restlessness.

Old cows should be fatted at fifteen years. The dairyman, therefore, who has fifteen cows, should raise a heifer calf every year to supply the vacancy—if the herd is thirty cows, he should raise two calves, and so forth.

Heifers dried up too early after calving, will always run dry about the same time in after years—therefore be careful to milk closely the first year, until about six weeks before calving.

Spring cows should come in while they are yet fed on hay, and before they are turned to grass, which will be more likely to prevent caked bag and milk fever.—*Annual Register.*

HOW TO RAISE GEESE.

I RECENTLY found some inquiry in the *Farmer* about raising geese, and as I am an old hand at it, I thought I would reply. When they commence laying, which is usually April or May, a box with bran or cotton on the bottom should be provided, so that the eggs will not roll about. As often as there is an egg laid in the box, the rest of the eggs should be turned over carefully. When the goose is done laying and wants to set, she will make her nest, feather it, and set on it; the nest should then be taken out very carefully, and a nest made with about four quarts of horse

manure, and some chaff on that; let it be made large and commodious, and then lay the nest that the goose made on the other very carefully, not disturbing the straw nor the feathers. Fill in all around the nest, making it about level, so that the goose can go on and off with ease.

The goose sets four weeks; mind the time correctly. Two or three days previous to the time of hatching, place the eggs in a broad, deep tank, with milk-warm water enough to let them swim, and those that have live goslings in them will bob round and swim, and those that have not, will sink or be still; the goslings will break the shell on the end that stands out of the water.

Do not put the eggs in water after the shell is broken, but drop some water on the gosling's bill. When the gosling is hatched and the nest is dry, take it in the hand, and with the thumb and finger press the bill open and drop in a pepper corn, and then some sweet cream; have ready some green turf, place it round the nest, and place on it some Indian dough, where the goose will pick and learn her young. They are a very tender fowl, and require care till their feathers are grown; after that they need not bob, if they run in the road. They can be fed, if they run in the road. They can be plucked three times the latter part of the summer months; some think it very wicked to pick them, but they shed all that you pick, quills and feathers; they can be tried and if they come hard, wait a week or two. Do not let the young go to water too soon; have a short thing for them to drink out of; if they should get chilled, take them to the fire and put warm ashes on their back, and feed them with cream with a teaspoon.

Two geese are better than three, and one is better than two, as they are apt to beat each other; and unless they hatch all together, they will beat the young. When I kept geese, I fed them on corn till the grass grew, and not after that till they were fatted in the fall.—*Mrs. S. Phillsburg, in N. E. Farmer.*

ARTIFICIAL INCUBATION IN CHINA.

M. DABRY, French Consul at Han Keoo, in China, has just published an interesting paper in the Bulletin de la Société d'Acclimation on the process employed by the Chinese in hatching eggs artificially. The places where this trade is practiced are called Pao-jang; each consists of a mud hut, three yards in height, exclusive of the roof, made of tiles; the inside of the hut measures eight by four, and its entrance is situated due west; the north-east wind is provided against by a layer of straw applied to the wall; the door is made of planks, and measures one yard by two. Light is admitted through four apertures in the roof. Within, there are eighteen brick stoves, two feet and a half high, along the wall and close to each other. Each of these stoves supports a large earthenware dish, sunk into the brick work and just above the fireplace; and inside this dish there is a basket of nearly the same shape, resting on a layer of ashes about two inches and a half deep. It is in this basket the eggs are to be hatched; 1,200 in number are arranged in three layers, and the whole covered with a cane lid half an inch think. Nine of the stoves are lighted at a time, but only eight have eggs, the ninth being intended to regulate the temperature of the room, which must be maintained the same throughout. The combustible employed is charcoal, and the temperature in the basket never exceeds 38 degrees Centigrade. The eggs are shifted five times during the 24 hours, viz: four times during the day and once during the night, the upper layer going to the bottom, and the bottom becoming the middle one.

On the fifth day a small hole is pierced through the door, and by the pencil of light penetrating through it each egg is examined, in order to ascertain which of them are in course of incubation. On the twelfth day the eggs are taken out of the baskets, and arranged on shelves above the stoves, provided with layers of straw, two inches thick, and mats over them. Upon these the eggs are laid with a cotton quilt nearly three inches thick between each layer, and another quilt just above, the whole being well secured by means of a thick straw rope to prevent the air from getting to the eggs, which are regularly shifted as before, five times a day. As soon as the eggs are taken out from the baskets, the fires are put out in the stoves which have been used; the nine other stoves are lighted, and the process re-commences with a new batch of eggs. On the 21st the former lot is hatched, yielding about 700 chicks for every 1,000 eggs. Every egg is paid 6 sapeks, and each chicken obtained is sold for 14; the sapek being the 150th part of a franc.

MANAGEMENT OF THE APIARY.

ANY stocks that are likely to require feeding should now be examined. If short of honey, they may be fed with white sugar made into syrup, by adding one quart of water to 3 lbs. of sugar, and bring the mixture to a boiling heat. Stocks that need to be fed must be in a warm place while feeding, at least. If they are wintered out of doors, they may be brought into a warm room or cellar, fed a few pounds, and then returned to their stands. This must be repeated occasionally during the winter. If such stocks are in my moveable comb-hives, the honey box being removed, a dish containing feed may be placed in the passage through the honey board on the top of the frames; the bees will soon carry the feed down and deposit it in the combs. If common hives are used, they may be inverted, and the dish containing feed placed on the combs; the hive must then be covered, so that the bees cannot escape. As often as the dish is emptied, fill it again, until they have been fed a quart or more of syrup, made as above. Strong stocks will require little or no attention, especially if housed; if not housed, see that the passages for ventilation are not blocked up with snow or ice. If, however, my hives are used, there is no danger, because they are so constructed that the ventilation cannot be affected by ice or snow.

Now is the time to commence preparing hives for the coming spring. Suitable lumber should be provided. See that it is well seasoned before being made up, especially if moveable comb hives are to be made. After the hives are made, they should be well painted; it adds to their durability, and greatly improves the appearance of the apiary.

ESTIMATING WEIGHT OF CATTLE BY MEASUREMENT.

THE Canada *Farmer*, in reply to a correspondent, says:

Many experiments have been made by graziers and salesmen to ascertain the net weight of cattle by measurement, and a number of rules and tables have been formed of the results obtained. None, however, can be regarded as absolutely correct. With the most accurate measuring is required a practical acquaintance with the points and forms of animals, and allowance must be made according to the age, size, breed, mode and length of the time of fattening, etc., conditions which require a practical eye and long experience to appreciate. We have found the following method to lead generally to trustworthy results,

"Measure carefully with a tape line from the top of the shoulder to where the tail is attached to the back; this will give the length. For the girth, measure immediately behind the shoulder and fore legs. Multiply half the girth by itself in feet, and the sum by the length in feet, and the product will give the net weight in stones of eight pounds each. For example, with an ox or cow five feet in length and seven feet in girth the calculation will be as follows:

Multiply half the girth by itself in feet...	3.5
	3.5
	12.25
Multiply by length in feet.....	5
Weight in stones.....	61.25
Multiply by 8, (No. of lbs. in one Stone)..	8
Weight in pounds.....	499.00

FATTENING POULTRY.

IT is of no use to put up a skeleton and expect to make a fine, fat, tender meated fowl of it by feeding in confinement. Fattening is adding fat to lean. You must have the lean laid on while the bird is running at liberty. No amount of feeding will made a hard, old fowl tender. If a hen is over ten months old she may as well be ten years. She has passed the age for the table. She is old at ten months and ought not to be palmed off as a chicken.

Four months or at most five months is old enough to take *chickens* for the table, and if you take them at that age, in good fleshy condition, three or four weeks of confinement ought to bring them into first rate condition for the table. If they are going to market they may be crowded to advantage, but for home consumption it is not needed. If you make a coop big enough for fifteen or twenty fowls and put but four or five into it, they will not readily fatten. They have too much room. To fatten rapidly they must not have room to move about freely, but simply enough to stand and shift their position. They ought to be fed three times a day. Indian meal or dough is one of the best articles of food to lay on fat. Oat-meal mixed with milk is also first rate. Either substance should

be mixed fresh each time, and no more ought to be given than will be eaten up at the time. If you give too much the bird will be overed, or become cloyed, that is, the appetite is destroyed, and the food gets sour and if the fowl does not take a decided distaste to it, it will not thrive upon it.

Feed fattening fowls at daybreak in the morning. Cover them up warm at night and protect them from cold during the day. Feed regularly, never on stale food. Never subject them to draughts of air. Never place them where they can see other fowls running about. In these circumstances they will fatten beautifully in three weeks, and there is no known process by which they can be kept healthy after they are well fattened. Begin then three weeks before you want to kill. Calculate the number the coop will hold and fill it so full that the fowls can do but little more than stand comfortably. You can't expect to do more than put on flesh while fowls are running at large. You can't fatten. Putting on flesh is only preparatory to fattening. If you want to get the highest price in the market you must coop and feed three weeks in the manner indicated.—*Mass. Ploughman.*

VERY EARLY LAMBS.

A few days previous to yeaning time, confine the ewes in a box stall, or apartment where they will be protected from cold and storms. Feed with good hay and corn stalks, and let them have access to salt and water. Grain and roots previous to parturition tend to induce garget. As soon as lambs appear thrifty and strong, and take all the milk, one pound of roots and half a pound of meal daily, for each ewe, will make the lambs grow like weeds.

AN ALDERNEY COW.

"E. L.," of New Rochelle, N. Y., states that he imported an Alderney cow six years since. From March 1st, 1864, to March 1st, 1865, her record is as follows. She raised her calf, produced 351 lbs. butter, 78 quarts milk sold, and 447 quarts used in the family. There was no extra effort made; her only food during the grazing season was grass, and in winter half a bushel of coarse bran per day, besides coarse fodder. No roots were fed.

STANCHIONS OR CHAINS FOR CATTLE.

H. E. BOWER, Onondago Co., N. Y., inquires "Which is the best, chains, ropes, or stanchions for cattle?" We answer by asking which *he* would prefer, a rope around his own neck while in bed, or to have his neck confined between two balusters in the bedstead? When cattle sleep they usually turn the head around on one side. Ropes or chains allow them more liberty to move about and lick their sides. Still, there is no disputing the fact that cattle do well in stanchions, and this is the most economical way. Next to stanchions, neck chains are the cheapest fastening, and are nearly as easy to the animal as ropes.

ENGINEERING DEPARTMENT.

SHELTER THE TOOLS.

ARE your tools and machinery all sheltered from the snow and rain? This is very important. Western farmers suffer more loss from the decay of machinery by exposure, than from the wear of it; ten times more. Everywhere we see reapers and mowers, threshers, fanning mills, drills, wagons, and all kinds of farm machinery, lying just where last used—and there many of them will be till wanted. But our soil is so fertile that Western farmers. as a general thing, are prosperous in spite of all this bad management. Yet 'a penny saved is as good as a penny earned,' says 'poor Richard,' and I think it would be well to begin the saving process by housing the tools."

A MODEL HENERY.

THE London *Times* gives the following account of an English establishment for raising poultry on a large scale. It is called a Home for Poultry t

"The eight hundred cocks and hens housed in the Bromley Home enjoy the comforts of a model prison, without the disadvantage of compulsory silence or solitary confinement. Their cells are light, airy and comfortable, their dietary varied and liberal. The temperature of their abode is

regulated on approved scientific principles, and gentlemen who have made the character and temperament of fowls their special study, look after their comforts and minister to their wants. The section of the home now in active work consists of an airy, glass-covered house, three hundred feet long, twelve feet high and eighteen feet wide. This is divided into pens, twelve feet by three feet, and these pens are divided again into roosting and laying compartments, and glass-covered runs where exercise may be taken in wet weather. The general effect of this home—which will be multiplied by six in a few months—is very striking. Its central floor is of red tiling, with shafts to admit cold air in Summer and hot in Winter, a regular register of temperature being kept. At each side of this, and running along the pens, are symmetrical little beds of mustard and cress for the young chickens, whose compartments are on the second tier, and at short intervals a vine plant springs gracefully up, to eventually join tendrils with its opposite neighbor on the glass roof above. The covered mess boxes, looking like seats wherefrom the rare plumage and vast proportions of the birds may be critically viewed, also contain nests for egg-laying, and are so arranged that the most sensitive hen can pass to and from them without annoyance. The nests are wooden bowls filled with clean hay, and plentifully sprinkled with fine sand. In order that the poultry may be kept warm in cold nights, the roosting perches are composed of hot water pipes—a circumstance which is said to conduce to the continuous laying of eggs. The perfect ventilation and scrupulous cleanliness of the home are very marked, and the happy, well-fed look of the fowls, and the way in which their necessary wants are forestalled, conjoined with the exact similarity of their several cells, gives the model prison the pleasing appearance of strength as well as comfort, as the visitor progresses down the long house.

"The principle upon which these fortunate creatures are fed is to have certain essential dishes prepared and given them every day, while the other viands are varied throughout the week. Thus, as animal food is necessary, contracts have been entered into for horses. Upon the veterinary surgeon of the company giving his certificate that the horse submitted to him is fit for consumption, the contract price of two pounds is paid, and the animal is boiled down. The carcass is then finely mixed, and a modicum given each day to the fowls. Pigs are also to be kept, and in order that nothing may be wasted, the liquor in which the minced horse has been boiled will be given to the porkers as soup. The dietary will run then somewhat after this fashion; Cabbages, green food and horseflesh twice every day. Sunday, cross-grained barley: Monday, Indian corn; Tuesday, oats; Wednesday, boiled potatoes; Thursday, boiled rice; Friday, mangel wurzel; and Saturday, mixed grain. Add to this that a handful of sharp grit is sprinkled in all the food to promote digestion; that sulphate of iron is put into the drinking water once, and charcoal administered twice a week, and it will be seen that our high estimates of the comforts enjoyed by these cocks and hens is not over-charged. The floor of each covered pen is covered with sifted soil some inches deep, while the outer one has a plentiful supply of stable dung, each material being carefully turned with the spade twice in each week."

LIGHT IN STABLES.

IT is a great mistake to construct stables without light. It is necessary both for health and comfort. Repeated experiments show that disease is much more frequent in dark than in well-lighted apartments. One who was long at the head of the medical staff in the Russian army, states that cases of disease on the dark side of an extensive barrack, were uniformly, for many years, in the proportion of 3 to 1, to those exposed to strong and uniform light. Humboldt has also remarked, that the residents of South America, who wear light clothing—thus allowing a free ray of light to the skin—enjoyed immunity from various diseases, which prevailed extensively among the inhabitants of dark rooms, and underground locations. "Light, therefore, is a condition of vital, activity, and in view of preserving the sight of a horse, it is necessary that he have free access to the sun's rays while he is the habitat of the stable."—[Ex.

BARK FOR STRINGS.

I SEE, by one of your late numbers, certain kinds of bark recommended for strings to tie up grapes, hops, &c., that do not grow here. I think it more than probable that all of your readers do not know how to get the best

material of the bark kind that ever was used. It is as follows: In June, go to some sawmill, where the basswood logs that were cut down green the previous winter, are not yet worked up, and peel them as a woodman would peel hemlock bark for the tanner; or if you have no such place to go to, cut down a basswood tree in the woods; then put the bark thus obtained into the creek, or under water, peeled side down, so as not to have it get muddy, and let it remain from two to three weeks; then take it out, and the inside will peel off as soft and fine as any Russia matting ever used. In fact, I think this must be the way that Russia matting is obtained. This kind of string is stout, pliable, and very cheaply obtained. It is used by nurserymen in budding young trees, by hop-growers in tying np their vines, and by market gardeners in tying up their vegetables they send to market in bunches, such as radishes, onions, beets, turnips, &c.

Every one who is obliged to use strings will find basswood bark, obtained in this way, the best and cheapest they ever used.

MECHANICAL SKILL USEFUL TO FARMERS.

THE general introduction of machinery for farm uses necessitates an additional knowledge among the farmers themselves; that whereas, with the former simple tools of the farm the operator had only to study the capabilities of his soil, the adaptation and cultivation of his crops by such simple processes, now he is obliged beyond these, to understand the philosophy and working of machinery, which is often so complex in its construction that none but an educated mechanic can well comprehend its proper management. The man who sets up a steam mill has his regular engineer, whose sole business it is to attend the engine; but the farmer, with all his various machines for planting, cultivating, harvesting, threshing, &c., must be his own engineer and keep his tools in order, or they will go to destruction.

The multiplication of farm machinery, in its turn begets a necessity for a variety of tools with which to keep the machinery in order, or to make repairs as parts give way. To this end the farmer must have his workshop and his sets of tools where such operations can be performed, and he must learn the philosophy of his machines and the use of the tools necessary to keep them in repair.

No farmstead should be without its workshop and a fair set of tools. Time was when if a farmer had a handsaw, a hammer, an iron square, an inch auger, a gimlet, and a jack-plane, he felt equipped for all the mechanical emergencies of farm life; but with the introduction of modern labor-saving machines, that time has passed away, and the workshop becomes a necessity upon the farm. It is just as much a part of the practical education of the farmer's boy to learn the use of the tools in the workshop as it is to know how to handle the hoe, the axe, or the spade, or any of the implements of farm work.

The farmer's workshop should be a place convenient of access, snugly enclosed so as to be heated in winter to make it a comfortable place to work in; furnished with a work bench to which is attached a vice or screw for holding materials which needs to be held firmly while being worked; and stocked with planes, augurs, bits, saws, hatchets, hammers, wrenches, nails, screws, screw-driver, and all such little things as convenience suggests, for the various operations which are required. Such a place will be worth more towards the education of the boys than half they will learn in college, and for convenience and necessity for the farm operations will be one of the best investments which can be made about the farm.

UPPER STORIES.

AT farmers' houses and most other houses the sleeping rooms of those who labor are reckoned as of little account in regard to beauty of arrangement, if even comfort is taken into consideration. The good woman who takes her prayer-book and goes to church so regularly, wishing in her honest heart that some good might be thrown in her way to accomplish, might turn right back and cast a thought towards Biddy's chamber if it happens to be large enough to assume the dignity of the name. It is cheerless enough, surely; not calculated to elevate any fledgling notions of neatness, order or beauty in Biddy's brain; carpetless, curtainless, and a good many other things—less. In most households, the room of the maid-of-all-work is merely a place where they tumble in at night—the door being securely closed during the day, for what lady housekeeper would even like to have a visitor suspect that there ever existed in the house such a looking room as the one

Biddy has to occupy. And of course, Biddy don't care. Habit, which has lately been so ingeniously treated of by the inimitable John B. Gough, has settled her ideas in that respect, and she crawls into her nest at night and out of it in the morning about as careless and unconcerned as a pig.

Of course somebody is ready to "wonder if anybody thinks they're going to furnish their servant's rooms in style?" Oh, no, not by any means, dear madam, but if you wish to do a little good in the world, as so many often wish, here is a right fine chance of it. If the room that Biddy has to occupy is very small, so much the more need of having the articles in it stowed away in order and compactness. A neat housekeeper will make it a rule to have no place in her house which cannot be seen without causing a blush to rise to her cheek after one o'clock in the afternoon. She will also make it a point to know whether the servant's rooms are likewise in order. She can awaken their interest in the matter, teach them that this is their domicil, (just as every one likes to have a little dominion somewhere,) and it will not be difficult for a housekeeper of any length of time to find something which she has no use for but which would enliven and improve Biddy's room very much, and waken in the girl's brain two or three ideas which will certainly benefit her and be of no detriment to her mistress.

There may also be some poor orphan boy in the house—here is a chance for doing good—fix up his sleeping nest a little so that it will look less cheerless, place a book where he will see it, and let it be of a title that will interest him; it will perhaps keep him from seeking company out of doors evenings. In this way you can write on the bare walls of a room more than perhaps you would say otherwise if you had the opportunity of being with and talking with them. They may not think of it till you begin the work, but once begun it will not pass unoticed, and will be a little mite thrown into the great sea of little deeds of goodness which float among each other in harmony, singing like sea shells.

ABOUT CELLAR KITCHENS.

IN cities, where building room is estimated higher than human life, and where uppercrust gentility keeps domestic labor in ague-breeding basements, the "poor lungs" do become familiar with all sorts of noxious gases—moral and otherwise, and it is no wonder the Great Destroyer is always supplied with recruits.

Some years ago, before we moved to our home in Hazel Dell, we had a cellar kitchen to our house, where it was said we could wash, make soap, and do such like dirty work. In this we soon got in the habit of cooking and eating breakfast "just to save the litter," and then when poor mother got feeble and not able to run up and down stairs so much, we took all our meals there, till finally Pa said such a musty cavern was not fit for man or beast. Then he put up a nice kitchen, on a level with the dining room floor, and we left the cellar to the joint occupancy of Puss and the rats.

About the same time my pet pony began to have weak eyes, and when I galloped her half a mile, she would tremble all over like a leaf; when before she would canter all the way to the Dell farm—six miles—and still be as lively as a cricket. Pa said it was nothing in the world but being kept in an underground stable, and it took some months after, before she was herself again.

It was just so with our Sunday School, which used to meet in the *a-basement* of the church. Many times after we had been sitting for an hour, the cold chills would creep all over us, and some of the children took the ague and were down sick. Our Superintendent finally concluded that such *earthly* associations were not calculated to promote a growth in grace, and we abandoned the mouldy place altogether.

Some people think that underground rooms are a sort of necessary evil, but I regard them as poor POE did a certain kind of verses, in which sense must be sacrified to rhythm, and of which he declared, it was a contingency which should *never happen*. I am opposed to cellar kitchens in every shape, whether under dwellings, barns or churches. SUN BONNET.

ABOUT TIGHT BARNS.

NOW is the time for farmers to make observations in regard to the best barn for preserving hay from January to May. I consider it of very little importance whether the barn be close or open through the haying season, but I *do* consider it of the utmost importance, that the barn should be as tight as possible as soon as the fall and winter winds begin to blow. I have got in hay so green that it would

have spoiled had it not been put in a loft, or open shed; and have walked over that same hay in winter, and it would crump under my feet, only having the wind blowing over it. This shows that the closer a barn can be, or, in other words, the less wind and air on a haymow the better, after the sweating is over. I have a neighbor that cuts down his haymow every year, for no other purpose only to expose less surface to the wind and air at a time.

I consider hay put in a tight barn worth $2 a ton more than the same in a stack. My practice is to cut the grass green, and half cure it, and then put it in a tight barn; and this will be my practice until experience and observation teaches me otherwise.

I had a neighbor that always cut his hay late, and his cattle were always poor. I told him I thought early cut made more fat than late cut hay. He said that it might, but it did not make so much bone. So you see we did not disagree then. I chose the fat and he the bone. But one year he had help to get hay that he could not have but a short time; so he concluded to cut his hay early, and then work for his neighbor. The next winter he had a pair of steers that had bunches rise up on their shoulders and backs, and he did not know what ailed them, and thought something was wrong sure, and offered to sell them; he asked a cattle man what those bunches were? The trader laughed, and said, "I guess you have fed them plenty of early cut hay." Well, he said he had, but he did not know as it would hurt them.

So, brother farmers, here you have an example—late hay, open sheds, and bone; or early hay, tight barns, and fat. Take your choice. Now is the time for observation on the hay-mow.

HORTICULTURAL DEPARTMENT.

THE PROPER WAY TO DEAL WITH BULBS.

AS soon as any bulb shows signs of growth, the sap has begun its seasonal movements, and it needs the support of nutriment obtained by the roots. Therefore the first act of the sap, when its autumnal movement commences, should be the formation of roots; therefore, also, it should be in contact with moist earth, before the movement of the sap commences, in order that when the roots begin to protrude from the base of the bulb, they may be in contact with the soil, which is the only natural medium for their growth and usefulness. What should we say of a propagator of roses who should put in cuttings, and at once drive them into growth by atmospheric heat and moisture, without waiting till they had callused and began to form root fibres? We should say he had adopted a killing process, and had better buy roses ready rooted than attempt to obtain them in such a ridiculous fashion. But this is the way the greater part of autumn-planted bulbs are dealt with. They arrive in this country in fine condition of ripeness, and begin to sprout in the warehouses and seedsmen's windows long before the public think of making purchases. They form incipient roots at the base, and plump green shoots at the crown, and these succulent growths are elaborated at the expense of the sap in the bulb, and, by the process of transpiration, the atmoshere sucks the life out of them, through the tissues of incipient roots and plump green shoots. When planted, they have to make roots at the expense of the already exhausted bulb, and then have to recover from those roots sap to sustain the growth above the bulb, which is already in advance of the roots in its stage of development, and thus the balance between supply below and exhaustion above is never restored, and the second season after purchase the bulbs are fit only for the muck-heap.

The laws of vegetable physiology plainly point out that all the hardy bulbs which sprout in autumn should be in the ground before that effort is begun. The equable temperature of the soil, and its moist condition at 6 inches below the surface, provide the very best conditions possible for promoting immediate root action, and retarding the growth of the foilage—two desirable results both for the bloom in the spring following, and for the preservation and increase of the stock.—*Hibberd's Gardener's Magazine.*

THE GARDEN.

FEW farmers seem to realize the importance of having a good garden, yet a good one will produce more profit, according to the labor bestowed, than any other part of the farm. A good garden is not only profitable, as

producing food for the family, but it is productive of health, as a bountiful supply of vegetables on the table, will frequently keep a family healthy; and when their food consists constantly of salt meats, potatoes, and bread only, the doctor is a frequent visitor, in many cases.

The gardens that most farmers have are a disgrace to them;—a few hills of early potatoes, beans, squashes, &c., so entangled in weeds, that a man would require a compass in a cloudy day, when among them, to tell which way is north, and which south.

There is a great mistake made, we think, by almost all people who have gardens, in putting beets, carrots, parsnips, &c., in *beds*. It is much better to grow such things in long rows, a foot to eighteen inches apart so wide that a man may have room to walk between them easily to hoe them. Suppose you have a plot of ground plowed and harrowed, 100 feet square. First rake it off with a heavy iron rake, then set a line for the first row, drawn tight, then with the corner of your hoe, mark the row, where the seed is to be sown, directly under the line, which one can do almost as fast as a man can walk. At each end of the plat, you should have a stick for a measure of the width of the rows. Now, having marked out your first tow, lay down the measure and set the line for the next one, and so on till the space you desire to sow is all marked out, "as straight as a line."

If you desire to sow beets, carrots, parsnips and the like, the corner of your hoe should not make a furrow over an inch deep, with the dirt raised some on each side, and when the seed is sown, and the ground levelled, it will not be covered over half an inch deep, which is enough.

On this system of sowing vegetables, you will accomplish double in the same time, what you could by making beds for them, while the crops will be much better, owing to the fact, that we generally sow seeds in rows too close in beds.

SOME HINTS ON ORCHARDS.

EVERY farm that is made the home of a family should have on it a good orchard. If in a favoured fruit growing district, it will become one of the chief sources of profit. The incomes derived from good orchards during the past few years, will be sufficient stimulus to future planting, where there is a reasonable hope of success. Many will determine this winter to plant in the spring, but before a tree is set out they should consider well some of the chief points which will materially affect their future profits.

The space between the trees should be determined by the system chosen for future cultivation—whether the planter resolves to devote the ground wholly to the orchard, or intends to include the field in the ordinary farm rotation, and grow therein grains, grasses, roots, &c. If the land is to be given up wholly to the orchard, twenty-five to thirty feet apart each way will be enough for apple trees; if it is to be cultivated with other crops, forty to fifty feet space between the trees should be given.

Devoting the land wholly to the orchard, seems to be the best method, for the following reasons: If included in the ordinary farm rotations, the soil will be subjected to the double burden imposed by the crops and trees. To keep up its fertility will require more manure than can be spared from the rest of the farm. In the future, orchards will be mostly planted on fields long cultivated and exhausted of the original fertility. Old orchards have been prolific, without much manuring, because they were planted and grown on land that had not been previously cropped to much extent. Hereafter, the fruit growers must use more manure.

Cultivation is essential to the rapid and thrifty growth of an apple tree. But it is not necessary to plough and hoe the entire area of the field in which the young trees are planted. The fruit books say that for the first five years the ground should be planted with potatoes, beans, or some low crop that may be hoed; and not laid down to grass. The difference between the size of the trees thus cultivated, at the end of five years, and of those allowed to stand in grass, will be greatly in favour of the former. True; but it is not the land we wish to cultivate, but the tree; it is not potatoes and beans we desire to raise, but to fit the soil in such manner that hereafter it will give food enough to the tree, to enable it to raise large crops of apples. The fruit books say, likewise, that on a space arouud the trunk of the young tree, equal to the spread of the top, nothing should be grown; the ground should only be hoed, and weeds and grass kept down. This, too, is sound doctrine. But if the surface of the ground, through which the roots extend, is all that the well-being of the tree requires to be cultivated, what

harm to the orchard if the rest of the land is in grass? Instead of cropping it and exhausting the fertility, is it not more reasonable to lay it down to grass, and feed the growth off with stock, or let it rot on the ground, so as to enrich it, and accumulate food for the future wants of the trees? Each tree should be tilled like a hill of corn. Yearly, as the roots extend, a wider space around the trunk should be cultivated. It should be spaded and hoed, mulched and manured.

Meanwhile the area in grass would accumulate fertility, without the use of manure drawn from other sources than the field itself. Following this method the whole field would be brought under cultivation when the trees attained to proper size, and as good results obtained as though more labour and money were expended in tilling ground and growing crops that did not favour the orchard.—*Rural New Yorker.*

WOODWARD'S GRAPERIES AND HORTICULTURAL DEPARTMENT.

IT is less than twenty-five years since the first cold Grapery was erected on the Hudson. Since the success of the culture of the delicious varieties of the exotic Grape has been demonstrated, the number of graperies has annually increased, and during the last ten years in a very rapid ratio, until they have become recognized as possible and desirable, among those even whose circumstances are moderate and limited. The newly awakened interest in this branch of culture is manifested in the number and variety of books and other publications on this subject, the space devoted to it in the agricultural and horticultural journals, and especially in the increased number of graperie and vineyards which have been erected and planted in the last decade. There seems to be a general consciousness of the fact that, in the struggle for wealth and the greed for wide possessions, as well as in the inherent difficulties of our situation—thrown as we have been upon a new and vast continent—we have too long neglected the culture of the Vine, one of the most ancient and useful arts of life; an art which has, in all ages, been the fruitful source of comfort and luxury, health and happiness, to the masses of mankind. The neglect of this important and beautiful department of culture is the more remarkable, since our country embraces every degree of latitude, and every variety of climate and soil in which the grape is known to flourish.

It having been demonstrated by years of experiment, resulting in every case in utter failure, that the foreign grape cannot be successfully grown in the open air in the United States—the States of the Pacific excepted—we are obliged to confine our culture to glazed structures, erected for the purpose, where an atmosphere similar to the vine-growing regions of Europe can be maintained, and that bane of the foreign grape, the mildew, avoided.

The culture of choice foreign grapes, under glass in this country, dates from before the War of Independence, from which time to this the beautiful but perishable Chasselas, the delicious Frontignac, and the luscious Hamburg, have been, here and there, carefully cultivated and ripened. But these efforts have been chiefly confined to the vicinity of large cities, and the management has mainly been kept in the hands of foreign gardeners, who have imported themselves from the vine regions of Europe, to instruct us in the arts and mysteries of grape-growing.

That many of these are men of great practical experience in the art, we know full well; but, however skilful they may have been in foreign countries, their success in our climate has been achieved only by discarding many of their preconceived ideas, and adapting their practice to agree with the peculiarities of our climate, When the public shall have learned that the culture of grapes under glass is only a plain and simple pursuit or pastime, which any one of ordinary capacity can comprehend and successfully carry out, then we shall have made a decided and important advance.

The American people are rather disposed to be self-reliant, and we may, therefore, safely predict that when we take hold, in real earnest, of the business of grape culture, either under glass or in the open air, we shall do it with our customary determination and energy, and that success will just as surely follow as it has in other cases where imported ideas have been improved upon and superseded. We have shown, we think, in other fields of enterprise, that we may venture to rely upon native-born talent, ingenuity and industry, to work out this problem also, and that, by a practical demonstration, we shall gradually and surely, reach a point of success beyond what has been attained with all the advantages of foreign aid. And this success will be

equalled by the simplicity of its methods. Grape-growing in this country is yet in its infancy, and as respeccts the varieties best adapted to our soil and climate, essentially experimental. As yet, it has attracted any considerable attention only of the more intelligent and far-seeing portion of our population, but it is surely beginning to command the regard and study of the larger number of our cultivators, and the inevitable result will be that, in a few years, it must be an important source of wealth.

The great obstacles among us to grape-growing, under glass, especially to persons of moderate or limited means, are the first cost of building, planting, &c., and the necessity of regular and systematic care and attention to the vines which must be given, during a short season however, in order to insure success. To those who are influenced by the consideration of such obstacles as these, it may be said that, even in these times of high prices for all descriptions of labor and material—if we except, perhaps, brain-work and intellectual material—complete and substantial grape-houses can be erected at moderate cost, and with proper management they can be made a source of income and profit. As to the care and attention required, and the regularity of the periods at which they must be bestowed, at the risk of losing the drop, it can be easily demonstrated that these attentions and duties can be perfectly comprehended and understood by several members of the family, by the older children, and intelligent servants, so as to be overseen and performed by one or another in the absence of the person to whom the care is usually confided.

There is still much to be learned in the matter of exotic grape-growing in this country, and, in fact, in the management of conservatories, orchard-houses, and all descriptions of horticultural buildings, and all classes of plants cultivated under glass. Whatever progress may have been made abroad, where experiments are carried on upon a large and costly scale, and often with eminent success, is of little or no value to the American horticulturist. Our climate is very different in its character and conditions from that of Europe, and especially that of humid England. We have, what they lack, real sunshine, with clear skies. Under the English methods of treatment, our graperies and green-houses would speedily be ruined. Nor are we willing to accept as final and conclusive the present best-known methods of vine culture, If there are better modes of managing exotic or native vines, and of developing the whole theory of grape culture, we shall be quite sure to find them out in the wide sweep of experiment which we are boldly and patiently undertaking in various parts of the country.

We do not propose, in our present work, to enter upon the investigation and discussion of the various theories of heat, light, color, radiation, &c., which properly belong to scientific treatises on these subjects. We intend to give only practical examples and results, from an extensive professional experience, with numerous designs and plans of buildings, most of which are now in successful operation, with the expectation that this volume will contribute not only to the general information of our horticulturists, and of gentlemen who are establishing themselves in the country, but also to create and encourage a tase for this kind of culture of exotic and delicate fruits, as well as the exquisite but tender gems of the floral world. When we find that we can command, at a comparatively small cost of money and attention, the beautiful and luscious fruits of southern and tropical climes—their rarest and choicest flowers—the most delicious grapes, the finest peaches, nectarines, and apricots, the fig, and the pineapple, if we will; and that we can command these in abundance, to load and adorn our tables daily, the time cannot be distant when horticultural buildings of various descriptions will be found on all our country places or attached to our city homes.

DOMESTIC ECONOMY.

GLOSS ON COLLARS.

Can you or any of the readers of your valuable paper, inform me through its columns, how to do up collars, &c., so that they will be glossy. Also, how to make a good johnny cake. ELIZA G.

On applying to a notable housekeeper for directions on these two points, she remarked that she supposed "everybody" knew as well as she, but gave the following directions:—to make the collars glossy, put a piece of spermaceti as large as a nutmeg into a common bowl of starch, which usually holds a pint or more—the starch

being hot, dissolves the spermaceti, and the collars, when treated with it, become glossy as desired.

HOW TO MAKE MUFFINS.

MR. EDITOR,—I saw in a late number of your paper, an inquiry for direction to make muffins. I have benefitted much from the same source, and as we have good muffins twice every week for breakfast, with little trouble, I send our receipe. When the cook makes "a sponge" for the next day's baking, she mixes more than is required for that purpose. In the morning when it is light and soft, she puts some of it in tin rings, and bakes about half an hour. It wants no addition—it is merely soft bread. M. S. T.—*Rose Hill.*

MUTTON THE MEAT FOR FARMERS.

THE cheapest meat for farmers is mutton. It may safely be said it cost nothing. The wool that is annually sheared from the body of every sheep, richly pays for its keeping. In this climate it costs less to keep sheep than at the North, on account of the shortness of our winters. Then there is the increase—an item of great importance. The increase is so much clear profit. From this increase the farmer can get all his meat for a year, if he likes. Or, he may save the lambs and take some of the older sheep in their places.

The pelt of the sheep, if killed for mutton, is also saved and sold, which is worth nearly as much as the sheep would sell for.

It is also the most convenient meat to have on hand. In the warmest weather a farmer can cake care of one sheep after being killed, without letting it spoil. With beef this is not so easy.

One hand can kill and dress a sheep in an hour. It takes but little time or trouble to kill a sheep, not near as much as to kill and dress a hog or a beef. On account of convenience and economy, we say keep sheep and live upon mutton.

We have said nothing about its being the healthiest food. This is admitted. It needs no argument or facts to prove it. It is true that pork is the chief meat of farmers. It is the unhealthiest of all, whether fresh or saturated with salt to preserve it sound.

Let every farmer keep sheep. They are the most profitable stock on a farm. The hog's back only yields bristles while the sheep's yields downy wool. All that you feed to a hog is gone, unless you kill it, while the sheep will pay for its keeping with its fleece yearly. The hog is a filthy, voracious animal—the sheep gentle as a dove, and neat and cleanly.

COMMERCIAL REVIEW.

THE NURSERY TRADE.

THE results of the past year, says the *Horticulturist*, have developed some very curious examples of timidity in this line of business—a business that now stands on a broad and permanent foundation, and is as legitimate in its pursuits and results as any other business that can be named, and yet, by a very large number, evidently carried on with the momentary expectation that all demand will suddenly cease. The question was asked, upwards of twenty years ago, of a nurseryman who stocked an acre near Hartford, Conn., "Where will you find a market for all your trees?" and since then nurseries have gone on increasing in numbers and extent, year after year, and now the public are clamorous to know where they can find peach trees, plum trees, crab apples, quinces, evergreen seeds, Concord grape vines, and grape vines of all kinds. This kind of questioning is getting to be quite an important part of our correspondence, and we must decline answering it in any other manner except through our advertising columns. But the men who trembled the most were those who propagated grape vines the most extensively. They evidently thought that a small matter of two or three hundred thousand vines would glut the market; and the cut-throat game of seven or eight cents apiece for Concord vines was an evidence of fear by which the buyer profited largely. Now, in the month of December, when prudent buyers are looking out for next spring, Concord vines are scarcer at four times the price. We hear a great deal of talk about grape fever, but what does the whole of it amount to? About one of the most imperceptible things in existence. How many farmers in all this broad land have a single grape vine? Take all the acres of vineyard from the Atlantic to the Pacific coast, put them together, and how many townships in this

State would they cover?—Grow all the fruit, and make all the wine possible, and this city would call for more. This grape business is only in its infancy, and its progress will not end with this generation. How many farmers take an agricultural paper? Not one in ten. The balance know nothing—they don't want to know anything—and it will take years to educate such men to know the difference between good grapes and poor ones; but it can be done. It requires persistent application. There is steady progress; we have full faith in it. The time will come when every one will not be satisfied with a single vine; they will require dozens and hundreds. What our grape vine propagators ought to do is to raise first rate vines, then let the public know they have them for sale.

AYRSHIRE CATTLE.

We learn that MR. JAS. H. MORGAN of Ogdensburg, has purchased the following animals of this breed, selected for him by Mr. Chas. Shepard of the same place, from the herd of Thomas Irving, farmer for Sir W. E. Logan, Montreal: One imported cow, "Soncie;" one imported cow, "White Cherry;" one imported cow, "Heather Bell;" one imported cow, "Young Stately;" one two-year old heifer, "Matilda," one two-year old heifer "Flora, 2d," and the beautiful young bull, "Sir Colin."