

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

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.*

FEBRUARY 1866.

Editorial Department—Is the Factory system of Cheese-making profitable in Canada?—Winter and its Duties—Butter Factories—Walkill Creamery Association—The Springs and the Manner of treating the Milk—The Churn-room and the Churning—The Cheese—Record of Results from a given quantity of Milk—Practice with Science—Farmer's Sons—Cheese-making in the County Oxford—Farmers, have you any Agricultural Paper?—Plans and Management—Department of Agricultural Report—Paris Universal Exhibition of 1867—**Farm Operations**—Epilobium, or Northern Cotton—To the Secretary of the Agricultural Association of Upper Canada at London—Change of Crops—The Weeds—how to dispose of them—Stirring the Soil—How many Cabbages per acre—Sorghum Culture—Tobacco Culture—Seed—Seed bed—Soil—Manuring, &c.—Transplanting—Cultivation—Worms—Topping—Succoring—Harvesting—Curing Burns—Hanging—Stripping—The value of a ton of Straw—Qualities of Hay—**Breeder's Department**—How to cut and trim Pork—Two-thirds waste—one-third wool—Cattle fairs in Canada—Keep the best stock—Selecting cows—Farm Stock—Training sheep—**Engineering Department**—Farmers' tools—Wire fences—An excellent gate—A cheap ice house—**Horticultural Department**—Extensive Vineyards—Visit to the Lake Erie Grape Islands—The Delaware Grape—Flowers in the window—Flowers for perfume—To cure wounds upon trees—**Domestic Economy**—Dairy statistics, &c—Cooking as a fine art—Monsieur Blot's academy—Interior arrangements and process of the cuisine—Bill of fare—How to roast a goose—Sauce for a roasted goose—**Commercial Department**—Facts about peat as an article for fuel—The lady's friend—Montreal Markets.



SPARGERE COLLECTA.

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

RARE
S
159
R112

IS THE FACTORY SYSTEM OF CHEESEMAKING PROFITABLE IN CANADA ?



HAT cheese factories are profitable in the United States there can be no question. Their rapid multiplication, and the large amount of business done by them, prove this. Our American neighbors are too shrewd to pour water into a tub full of holes. Their proverbial hankering after the "dollar" is good security against their pushing doubtful enterprises on an extensive scale. It has, however, been predicted by some of the Agricultural journals on the other side of the lines, that when the inflation of the currency ceases, and things come down to the gold standard, factory cheese-making will not pay.—During the past season, 20 cents per lb. was the average price of cheese as sold by the factors. But this was in reality only about 9 cents in specie. Regarding the other 11 cents as fictitious, it has been prophesied that on the subsidence of the currency, a collapse would be suffered by the cheese men. On the other hand it is urged that the factory business paid a good profit before war prices set in, and on the settling down of all things to the gold level, it will still be found profitable.

Our money market having been undisturbed by fluctuations in the value of the circulating medium of commerce, we are in a position to take a calm and sober view of the cheese business. Last year 9 and 10 cents per lb. were obtained for their cheese by Canadian factory makers. This year, in consequence, no doubt, of the established reputation of the article produced, an invariable price of 10 cents has been, and there is little doubt will be given, for what is manufactured in this country. It is not easy, from the newness of the business in Canada, to come at an exact calculation of cost and profit. Only an approximate estimate can be arrived at. At present prices, the Ingersoll Cheese Factory, carried on by Mr. Harris, will yield a profit of from \$1,800 to \$2,000, after making a liberal allowance for working expenses, interest on investment, wear and tear, &c. With but little additional outlay, however, for premises, &c., and an extra cost of about \$2 a day for working expenses, a ton of cheese per diem could be made, and then the profits would be more than doubled. If we take the smaller factory, carried on by Mr. Galloway, we find that he is allowed \$1 per 100 for manufacturing the cheese,

and that about 30 tons will probably be the season's work. This gives the manufacturer \$600. There are four partners in the investment of about \$2,000. At present prices, they will net about \$750. Allowing 12 per cent, for interest, wear and tear, &c., each partner will have a profit of \$125. If Mr. Galloway were the only party interested, he would have, after allowing for interest, &c., \$1,100, from which there would be scarcely any deduction, as the help is furnished by his own family. Judged by these bare estimates, cheese-making is much more profitable than ordinary farming. But these rough calculations do not fully represent the case. The cheese-factor himself keeps a large proportion of the cows from which the supply of milk is obtained. If he debits the factory the usual price paid others for the milk, he credits himself a profitable return of one of his farm products. Besides this, he raises a variety of crops, and these enhance the gains of his business. We hope to be able ere long to give the creditor and debtor side of factory-cheese-making in full detail. Mr. Galloway has promised to send us at the close of the season a minute account of his experience, which we shall take pleasure in publishing, as an example and guide to others.

We have no doubt that it is equally profitable for the farmer to sell his milk to the cheese-factor. It certainly pays better than to manufacture either butter or cheese at home. Cheese, the product of private dairies, never brings so good a price as the factory article, mainly for the reason that however carefully made, the home manufactured cheese is not of uniformly good quality. At present, while factory cheese brings 10 cents per lb., that made in private dairies only brings 8½ cents. The labor of cheese-making is great, and presses very heavily on the female members of the farmer's family. Were factories in operation within reach, it would pay better to take the milk to them, pay 2 cents per lb. for its manufacture into cheese, and sell at 10 cents, than to make cheese at home and sell it for 8½ cents. It admits also of easy proof that it pays better to send milk to a cheese factory than to retain it for the purpose of butter making. Twenty cows will average milk enough to make 44 lbs. of cheese per day. The same milk made into butter, will only yield 12 lbs. of the latter article. A patron of Mr. Galloway's tested the two courses. He made butter from the milk of ten cows for one month. The proceeds of

his butter-making amounted to \$13. Next month he sent his milk to the factory, and received for it \$38. Another party sent the milk of eight cows to the Ingersoll Cheese Factory for a month, retaining his Sunday's milk for the family supply of butter. His receipts for the month's milk amounted to \$50. This is a rather large yield, but it is explained by the fact that he paid two cents per lb. for the manufacture of cheese from his milk, so that he really obtained about 8 cents per gallon for his milk. Still another illustration. A farmer in Norwich owning 20 cows sent his milk to Smith's Cheese Factory last season. His farm consists of 100 acres of land, and besides keeping his cows, he raised considerable grain and other crops. His season's milk footed up \$650, at 6 cents per 10 lbs. Had he taken the proceeds in cheese, his receipts would have been more. We doubt if there were many 100 acre farms in Canada, that, with the poor returns of last year, told so good a tale.

The necessity for a change in our system of farming,—the importance of manufacturing manure on a larger scale,—the wisdom of a rotation of crops, and succession of products, together with many other weighty considerations, commend the cheese factory system to Canadian farmers. It is proved that we can successfully compete with American dairymen. The market is a steady and permanent one. There is no danger of it being over-stocked for a great while to come. And while this, like other departments of agricultural industry, is not a money-making business in the sense in which that phrase is used by financiers and speculators, it is a fairly remunerative occupation, and one that it is desirable to see entered into more largely. Those who have embarked in this business are encouraged and sanguine. Many parts of Canada are peculiarly well adapted to the dairy business, and though we are somewhat cautious and slow about adopting novelties, there is little doubt that the good beginning made in Oxford, will be followed up in various parts of the land.

A cautionary word perhaps is needed as to having factories too near one another. It is possible for them to be planted too thickly for profit. To avoid this, it is well that there should be some concert of action in getting up these institutions. One factory doing up the milk of 800 or 1,000 cows, will pay better in proportion than four small ones doing each one-fourth the work of the

large one. We hear of a design to start factories in several quarters, and hope that we shall speedily have the pleasure of chronicling their actual and successful operation. —*Canada Farmer.*

WINTER AND ITS DUTIES.

THE season that is now upon us, is regarded by many as dreary, unprofitable and tedious. Winter is not unfrequently reckoned as nearly all lost time, so far as the labours of the farm are concerned. The indoor feeding and care of stock, are counted among the hardships of our northern latitude, and multitudes sigh for a home in a milder climate.

A Canadian winter, it must be confessed, is not without its rigours and inconveniences. It is doubtless very pleasant to think of a mild and genial climate, in which cattle need no shelter, roots no housing, and the plough can move every day in the year. But our winters have their advantages, and even charms, while the moderate weather of more southern regions is associated with counterbalancing and compensation drawbacks. It is a favourite theory of ours that the lot of humans beings on this earth, is pretty well equalized, and that a fair statement of pros and cons would show that while special considerations may properly enough dictate a choice, there is no region that is absolutely best. Health statistics make it appear that the temperate regions are the most salubrious in the world. These climes are also most favourable to mental vigour, to the development of energy, and the promotion of true refinement, and elevation of character and manners. The bone and sinew, the flower and elite of the world's population, are to be found in these regions. A delicacy of constitution, and an effeminacy of mind and character, seem inseparable from perpetual summer. Just as the winter of adversity toughens and strengthens human character, so does the physical winter harden vegetable fibre and animal muscle, and exert an invigorating influence upon mind and body. Winter is a most valuable tonic, though, perhaps, like some other tonics, it may not be quite pleasant to take.

But we will not now attempt an exhaustive discussion respecting the advantages and disadvantages of winter. Enough that the stern reality is before us, and must be accepted as an unalterable condition of life in

Canada. Our wisdom is to adopt such measures as we can to mitigate its hardships, to reap its advantages, and turn it to useful account. This is the season for consuming the crops that have been grown during the genial summer-time. In the growing season, good economy dictates that the farmer should raise heavy crops, and, in the feeding season, good economy demands that there be no waste, but that the food provided be made to go as far as possible. Comfortable shelter not only promotes the warmth and well-being of animals, but makes their food go farther. By preventing waste of animal heat, it is easier to keep stock in good condition. Regularity in feeding is also important. The chaffing of hay and straw, mincing of corn stalks, and grinding of grain, are modes of economizing feed, which it pays to adopt. Straw should be carefully saved. With a little meal added, it forms a most useful fodder, and will keep growing animals in fair condition. Clean, bright straw, is better than poor hay. Refuse, dirty straw, should be dried and kept for litter. It is also useful for covering roots in the field, and in cellars not quite frost-proof. Where straw is abundant, very comfortable cattle and sheep sheds may be made with it. The care of his animals may be put down first on the list of the farmer's winter duties. Every arrangement possible, for facilitating and lightening this duty, should be resorted to. A little trouble and expense, at the beginning of winter, will often secure conveniences which will greatly lighten the labour of attending to stock. Cracks and openings, that admit cold currents of air, should be stopped; doors well hinged and provided with fastenings; and a convenient plan adopted for clearing out manure. Stables require means of ventilation, and should at all times be kept sweet and clean. Fresh air is a necessary of health and life, in the case of all animals.

Next to the case of stock, we should put on the list of winter duties, manure-making. Thousands of acres of land are suffering for want of dung. Like the daughters of the horse-leech, the soil continually cries, "give," "give." How can it be otherwise, when man is constantly taking of its wealth, in the form of vegetable products? The great want of every farm in the land is MANURE! MANURE!! The manufacture of this important article should be constantly and carefully attended to. It is, however, greatly neglected. Tons upon tons of rich fertilizing material are wasted by drainage

and evaporation, every year. Manure cannot be properly saved without a cellar or tank, and a roof of some sort. Into the cellar everything should be tumbled, that is capable of decomposing. The roof will prevent the washing away of the soluble particles by the rain. Both the solid and liquid droppings of animals should be saved with rigid economy. With these may be mixed, swamp muck, leaves, turf, spent tan bark, in short, whatever can be scraped together, that will rot. The contents of the pig-sty and fowl-house are among the richest manures, and should be turned to good account. Most farms have on them some low place in which muck may be found. It will be good exercise for the teams to haul up a large supply of this valuable material, in the winter time. It can be got at and dug at this season of the year, better than any other.

In many parts of the country, where wood brings a good price, and farmers have considerable timber, wood-chopping and hauling is profitable winter work. When only the family supply of wood can be afforded, year by year, this is the season to get up a stock of firing. It is wretched policy to burn green wood, and very poor management to bring it up, a load at a time, as it is wanted. The farmer's wood lot is beginning to be a most important affair. In many parts of the country timber grows scarce. Those who have it will do well to avoid all waste, and provide wisely for coming years. All fallen timber that can be used should be converted into firewood. Dead trees should be felled. A culling process that will make the piece of woods last as long as possible should be adopted. All fence timber should be carefully preserved. Fuel and fencing will be costly things on many a Canadian farm before long. Not only firing, but material for making new fences and repairing old ones, ought to be provided in the winter time.

This is usually regarded as a season of comparative leisure, but it may, if desired, be made as busy a time as any in the year. In addition to the duties already spoken of, there are many useful and necessary matters that can be attended to in winter, better than at any other time. Most farmers have some skill in the use of tools, and can make a variety of articles needed on the farm, such as gates, waggon racks, sleds, stone-boats, rollers, drags, &c. There is no better time than winter for providing such things. Farm accounts should now be

straightened up, and much thought bestowed on the doings of the past year. The questions, "what errors have I committed? what successes have I gained? and wherein can my farming be improved,?" should be well weighed during many an anxious hour. Plans for the coming busy season should be carefully formed. Books and periodicals devoted to agriculture should be closely studied, and a note made of valuable hints, for future reference and use. Reading on general subjects, with a view to the improvement of the mind, may properly claim a portion of time. The farmer need not be a dunce or an ignoramus. Let him seek and intermeddle with all wisdom. It is an objection urged sometimes against rural pursuits, that farmers, as a class, are so uneducated and uninformed, and that it is not easy to find intelligent and refined society among them. Let this reproach be taken away from this most noble of all secular pursuits. The long winter evenings not only give opportunity for reading and reflection, but for lectures, farmers' clubs, &c. These ought to be established in every neighbourhood. Prejudice against book-farming and innovations ought to be laid aside, and "EXCELSIOR!" adopted as the universal motto.

These hints may suffice to show how much of real work may be crowded into the season of winter. But we by no means advocate a tread-mill mode of existence,—one in which incessant plodding, at work of some or sort or other, is to be going on. We believe in recreation, and winter is a good time for that. There are many indoor enjoyments that may be had; music, singing, sensible games, social gatherings, and the like. There are out-door recreations also: sleigh-riding, hunting, skating, &c. As we pointed out about a year ago, every rural neighbourhood might have, at small expense, a rink for skating, curling, &c.; and many farmers with creeks flowing beside their doors, might provide such a source of amusement for their own families. We believe that as a class, farmers unbend from hard work too little. A day now and then during the other seasons, as well as in winter, may be well spent in relaxation and recreation. The farmer himself, his often too hard-worked wife, and his children, secluded from the busy world, would be gainers every way, by periods of wisely chosen amusement. "All work and no play" not only "makes Jack a dull boy," but has a like effect on Jack's father and mother, and

indeed upon the whole family. Or, to quote Æsop's graver saw, "the bow always bent loses its spring."

BUTTER FACTORIES.

THE fame of Orange County butter is everywhere. Orange County butter is the standard of comparison. Lately a new feature in making this article has been introduced in that locality, an idea of which will doubtless be thankfully received by our readers, who may some of these days be able to profit by the example. Mr. Willard, the well known writer upon dairy subjects, in the Utica (N. Y.) Herald and many agricultural papers, has recently paid a visit to this noted butter producing region, and has written a full description of butter making in factories recently established there. We make the following extracts from his report.

"These butter factories have, in a measure, been forced upon the farmer in self-protection. Where milk was regularly delivered at the depots for the New York markets, the prices were of course somewhat under control of city operators, and the farmer submitted to abuses because he knew no way to relieve himself from combinations formed against him.

"The system of butter factories renders him perfectly independent of the milk trade. In other words he dictates to the New York dealers the prices on milk. If they are met, all well enough, but if not, he goes to manufacturing butter and cheese. He therefore sees a sure way out in any event and is not at the mercy of speculators, who, entering into combinations, had everything pretty much their own way. The establishment of butter factories has been a great success, because they have been enabled to turn out a very superior article, uniform, and one that can be relied upon in the market. This uniformity and superiority in quality and flavor of the butter made at these establishments are such that it is eagerly sought after and commands extraordinary prices. The butter factories are now offered 70c per pound for all they can make, and the probability is that a still higher price will be reached, because there are always those in the cities who will have the *best butter* let the price be what it may, in preference to taking an ordinary article at ordinary rates. And it may be remarked that the butter manufactured here is of that peculiar flavor that those having once tasted it will

not soon forget it, and ever afterward will feel dissatisfied with an ordinary article.

"Desiring to see the working of the new system, and to examine the process of treating the milk and cream in all its parts, until deposited in a golden mass in the tubs, we took a carriage at Goshen, and passing through the northwestern part of the town, crossed the Walkkill to the parent butter factory of the county. It is located about half way between Goshen and Middletown, in the town of Walkkill, and is known as the

WALKKILL CREAMERY ASSOCIATION.

The main building consists of a two-storied structure, arranged on a plan similar to our cheese factories. Below are the vats, presses, &c., for making cheese, and above is the dry room. On one end of this building is erected the spring house, containing two rooms, the one 12 feet by 16 feet, and the other 14 feet by 24 feet. It has windows and doors for ventilation. The packing and churning room is a separate building, 12 feet by 24 feet, and stands opposite the spring room, with a narrow alley between. Adjoining to and connected with this is the horse-power for churning, and a store-room. The establishment receives the milk from 400 cows, and after the cream is taken from the milk, the milk is made up into skim cheese.

THE SPRINGS AND THE MANNER OF TREATING THE MILK.

There are two springs in the spring-house—one is of soft water, and the other happens to be slightly tintured with iron. Vats are constructed about the springs for holding the water. They are three in number, twelve feet long by six feet wide, set down even with the floor, and with racks in the bottom for holding the cans. The water flows up through these racks and above them to the depth of 17 inches. The pails are 22 inches long and 8 inches in diameter, and as fast as the milk is received they are filled within 5 or 6 inches of the top, and immediately placed in the water. Care is taken that the surface of the milk in the pails is not above that of the water in the spring. The pails are set close together, and one spring will hold 2040 quarts of milk. The spring should have a sufficient flow of water to divest the milk of the animal heat in less than an hour. Mr. Slaughter regards 56° as the highest temperature that the water of the spring should be for conducting operations successfully. He has not yet de-

termined the precise temperature of the water best adapted for obtaining the most cream from the milk, but is satisfied from his experiments that the natural temperature of the water should not be below 48° nor above 56°. He says more cream, and that of better quality, for butter making, can be obtained by setting the milk on the above plan, than in shallow pans. The object is to expose as little of the surface of the milk to the air as possible, and that surface should always be in a moist atmosphere, in order that the top of the cream may not get dry, which has a tendency to fleck the butter, and injure its flavor.

The milk of one day is left in the spring until next morning, when it is taken out, the cream dipped off and put immediately in the churns. In removing the cream, a little tunnel shaped cup, with a long upright handle, is used. It is gently pushed into the pails and the cream dipped off. It is very expeditiously effected, and the milk line easily determined by the appearance of the milk. The cream at this season of the year, and in spring, is churned sweet. In summer, the cream is dipped into the same pails and returned to the spring, and kept there until it sours. As fast as the cream is removed, the milk in the pails is emptied into the vats for making skim cheese.

THE CHURN-ROOM AND THE CHURNING.

The churning is done by horse-power. The churns are the common barrel and a half-dash churn, four in number, and are placed on each side of the power, so as to be all worked together. About fifty quarts of cream are put in each churn, and each then receives a pail of cold spring water, and the mass is brought to a temperature of 63° to 64°. In warm weather ice is sometimes broken up and put in the churn to reduce the temperature to 56°, but it is deemed better to churn without ice if the cream does not get above 64° in the process of churning, as butter made with ice is more sensitive to heat. It is, however, a less evil to use ice than to have the butter from the churn come white and soft. It requires from forty-five minutes to an hour to churn, when the butter should come solid and of a rich yellow color. It is then taken from the churns and thoroughly washed in spring water. In this process the ladle is used, and three times pouring on water is generally all that is required. It is then salted at the rate of one pound and two ounces of salt to twenty-two pounds of butter. In

making winter butter, a little more salt is added at the last working. The butter, after having been salted and worked, is allowed to stand till evening, and is then worked and packed in sixty pound pails and shipped twice a week to New York.

In hot weather, after the butter is salted and worked over, it is taken to the spring and immersed in the water, where it remains until evening, when it is taken out and worked over and packed. For winter butter a small tea-spoonful of pulverized salt-petre and a large table-spoon of white sugar are added for the 22 pounds of butter at the last working. No coloring matter is used in butter at this establishment.

The butter is worked on an inclined slab with beveled sides running down to the lower end and within four inches of each other. A long wooden lever, so formed as to fit a socket at this point, is used for working the butter. It is a very simple affair, and does the work effectually. In churning the dashers are so arranged as to go at every stroke within a quarter of an inch of the bottom of the churn, and rise above the cream in their upward stroke.

When butter is packed in firkins, none but those made of white oak are used. These firkins are very handsomely made, and are tight so as not to allow the least leakage. Before using they are soaked in cold water, and after that in hot water, and then again with cold water. After being filled with butter they are headed up and strong brine poured in at the top to fill all the intervening spaces. The pails for holding the milk in the springs are thoroughly cleaned with soap, rinsed in spring water, and put on a rack to dry. In furnishing a factory, two pails are allowed for each cow, as it is necessary to have a double set.

THE CHEESE.

In making the cheese, the milk is set at 82° highest heat, 96° to 98°, and three pounds of salt to 100 of curd. The curd is pressed in 16 inch hoops, and cheese made about four inches high. We bored a number and tested their quality; they are of very good flavor, and by no means unpalatable—though of course, inferior to pure milk cheese. These cheeses are shipped to warm climates, and many of them go to China in exchange for tea. Their value has been constantly increasing, as the markets have been opened for this character of cheese, and it has sold this year for as much as our best factory, and sometimes in advance.

It is believed, if the quantity could be increased, other markets would be opened, so that the cheese would always sell for as much as the pure milk cheese, and perhaps in advance of it, since it seems to be better adapted to warm climates and better suited to the tastes of people living under a burning sun, where less fat is required than in our cold climates.

RECORD OF RESULTS FROM A GIVEN QUANTITY OF MILK.

Mr. Slaughter has only from time to time made a record of a single day's work—his books being arranged for monthly statements. Among the single day's results are the following:

On May 18th, from 3512 quarts of milk, wine measure, there was produced 213 pounds of butter and 560 pounds of cheese; May 26th, from 3300 quarts of milk, 210 pounds of butter and 550 of cheese; September 12th, from 3128 quarts, 200 pounds of butter and 546 pounds of cheese; October 14th, from 2027 quarts of milk, 120 pounds of butter and 407 pounds of cheese.

Take the result, for instance, of May 18th: The 3512 quarts of milk by our system would make, say 800 pounds of cheese, which at 18c., would come to \$144. But by the Orange country process, 213 pounds of butter, at 70c., comes to \$149 10, and the 560 pounds of cheese at 18½c., comes to \$104 60, or for both, the sum of \$252 70, making a balance in favor of the Orange country farmer, on the same quantity of milk, of \$108 70. Is not that sum too much for us to lose?

PRACTICE WITH SCIENCE.



New Periodical.—Under the title of "Practice with Science," a new periodical has been started, emanating from the Royal Agricultural College at Cirencester—articles chiefly from the pens of the Principal and the Professors of the Institution. In the first number, as noticed by the London Field, we see that the Principal appropriately commences an article on agricultural education—a subject now seriously undertaken by the Royal Agricultural Society—and advocates the establishment of colleges as a means of instruction, and fairly enough puts the case thus:

If agricultural colleges have their lecture-room fully illustrated by contiguous, well and profitably managed farms: if they

persistently open their doors to the inspection of practical men; if they invite eminent and successful agriculturists to test the practical knowledge of their pupils by examining them in the details of farm labor on the farm, not in the lecture-room, where the animals, the crops, the live stock, are before both pupil and examiner, why then I am sanguine enough to believe that it will yet be confessed that such colleges can teach practical as well as theoretical agriculture, and that the encouragement of the successful students is not an object unworthy the attention of the Royal Agricultural Society.

A paper drainage well illustrates the great practical experience and knowledge of Mr. Bailey Denton on the subject. A lecture on Plows and Plowing, by Mr. J. E. Ransome, of Ipswich, gives a general view of the progress of plowing from the earliest times, entering into all the points connected with the subject. A Report on Wheat Experiments, by Prof. A. H. Church, is very interesting, as showing the favourable results arising from a proper selection of seeds, the process being clearly given. Dairy farming forms the subject of an excellent lecture by Mr. J. F. Harrison, the volume concluding by a lecture on Leases, by Mr. R. G. Welford.

FARMERS' SONS.

WHEN a farmer's son leaves home to become a clerk in some village or city store, or to engage in some other business, in three cases in four, he takes the first step towards his pecuniary ruin. Occasionally, a young man thus gets into a business, in which he becomes a partner, or owner, and makes money; but such cases are rare.

Let us suppose a case. A young man hears of the high salaries clerks get in New York, \$1500 a year in some cases, and he gets the New York "fever," and taking \$50 in his pocket, he bids his parents farewell, and leaves home in high spirits.

When he gets to the city, he inquires for a boarding house; he applies to several, and finds the price of board from \$6 to \$10 a week—the cheapest, with fare he would not be satisfied with at home, being about \$6. He takes board at this rate, and begins to look for a situation—sees advertisements in the papers for clerks, but a hundred get the start of him, some of whom

write splendid hands; and, of course, they get the situations.

In a few weeks his money is all gone, and he writes home for more; and the result generally is, that after spending from \$100 to \$200, and "seeing the elephant," he comes home disgusted with city life, and is willing to stick to the farm, or awaits a new outfit for a second trial for success.

Such an aspirant for money-making has his ardor somewhat cooled when he learns of city merchants, that they pay green hands only about enough to board them; say, from \$300 to \$500 for smart, active clerks from 18 to 25 years old. The rule is to increase salaries from \$50 to \$100 a year, till clerks become fully acquainted with the business, when some few—the most efficient, perhaps one in a hundred—get a salary that enables them to lay up a little money, if they are economical.

If, however, we should turn to the histories of most young men, who leave good homes to obtain situations in cities, we should find that ninety-nine in a hundred failed to realize their anticipations, and have died poor, or are now living on less means yearly than a good farm affords, while their lives are a continued current of cares that render life anything but happy.

In our younger days we had practical experience in this matter, and left New York with a shattered constitution, brought on by close application to business, without a compensatory reward for the loss of health, and to escape a premature grave we fled to the country, there to get a new lease of life by tilling the soil.

Here are a few remarks on the foregoing subject, which we clip from the *Rural World*:

The sons of farmers commonly think their lot is a hard one. Unlike most city youths, they are compelled to perform daily toil. Their life, is not one of constant amusement. They cannot see and hear as much as their city cousins. They do not dress in as fine clothes—cannot treat and be treated at the popular saloons, or visit the costly gambling resorts which abound in every city. They feel that their lot is indeed a hard one, and the highest ambition of many of them is, to arrive at that age when they can go to the city and see "all the sights."

But let us talk to our farmers' boys. You are in the right place. You are learning habits of industry and frugality. By your daily toil you are acquiring a sound con-

stitution—a most important matter. And this is one of the reasons that our great men have all come from farmers' sons. They have grown up robust, with constitutions that could endure a great amount of mental labor, which youths from the city, with weak and feeble frames, could not stand.

If you cannot see as much as city youths, neither are you exposed to the vices and temptations of the city life, which prove the destruction of nearly all raised in the city. You are then on the right track—go a head. Resolve to form no bad habits. Indulge in no intoxicating drinks. If you form a love for them, it is almost impossible to subdue it. Do not acquire the habit of chewing or smoking tobacco, or taking snuff. Read good books; let no opportunity for improvement pass away neglected, and you will grow up useful, intelligent men.

CHEESE MAKING IN THE COUNTY OXFORD.

IN these times of depression it is pleasing to notice the opening up of new and profitable branches of industry, more especially in connection with the agricultural interests of the country. Any remunerative system of farming which will divert producers from the too exclusive growth of grain, and thereby afford an opportunity to recuperate their exhausted lands, must be beneficial; and nothing would seem to be better adapted to this end than the manufacture of cheese on an extensive scale, by the establishment of factories, as is now being successfully tried in this country.

The plan adopted is for a number of farmers to unite in a sort of Joint Stock Association, choose a Board of Directors, and appoint one of their number to act as Manager. The Manager engages a competent cheesemaker, provides the buildings and apparatus; all the labour, and all the materials required, except the milk. He is paid a certain sum (two cents per lb., I believe) on the quantity of cheese produced. The remainder of the proceeds of the cheese, which is of excellent quality, and readily saleable at ten cents per lb., at the factory, is divided among the contributors, in proportion to the quantity of milk supplied. The milk is delivered at the factory twice a day during the season, which lasts about six months. The first factory in Canada was established within the last two years, in the Township of Norwich, where the two largest in the Province now are.

One has recently been got into operation in the Township of West Oxford, near this village, which, through the politeness of Mr. Harris, the worthy proprietor, I have to-day had an opportunity of inspecting. The factory premises, which will be much enlarged before another season, at present consist of a large two-story frame building erected for the purpose, divided on the ground floor into two rooms, one for manufacturing and the other for storing; the upper flat being exclusively used for storing. Here is brought daily the milk of about four hundred cows, about forty being owned by the proprietor. The milk is shot from the bright tin cans of the farmers into a large vessel, where it is weighed. Each gallon of milk weighs about ten pounds, and it was estimated that each ten pounds would produce one pound of cheese, but it is found that a fraction over nine pounds is sufficient.

After being weighed the milk is run off into an oblong rectangular vat, capable of holding about 500 gallons, which is furnished with a very ingenious contrivance for cooling and heating the milk by means of cold and hot water, conveyed under and around its entire surface. It is unnecessary to describe the process of cheese-making, but I may say that it is quite an interesting one, and is well worthy of a visit to see. Various labour-saving apparatus are used, so that comparatively little manual labour is required, while the most scrupulous cleanliness is preserved. The whey is strained off and conveyed by pipes outside the building, where it serves as food to about a hundred hogs, who greedily devour it. After being pressed into the usual well-known shape, each cheese is transferred to the store-room, where I counted one hundred and thirty-six, ranged on frames specially prepared, each bearing the date of its manufacture. Nine of these cheeses are produced per day, each weighing from eighty-five to one hundred pounds.

As an enthusiastic agriculturist and worthy friend who was present observed, it was, indeed, a most gratifying sight. I would strongly recommend farmers in other parts of the country, who have felt so severely the failure of the wheat crop in past years, to visit Mr. Harris's factory, and go home and do likewise. Let me say, in conclusion, that the prospects of an abundant harvest, not only of wheat, but everything that is grown, are, everywhere between this and Toronto, most flattering;

in fact, never were better.—J. H. MASSEY,
Cor, Canada Farmer.

FARMERS, HAVE YOU ANY AGRICULTURAL PAPER?

IT seems almost as absurd to argue in favor of every farmer taking an agricultural paper, as to argue in favor of sunlight or fresh water; and yet, strange as it may seem, there are men to be found whose lifelong occupation has been Agriculture, who have reasons to advance against taking or reading an agricultural paper. Public opinion is changing matters fast. The farmer, who takes an agricultural paper, stands head and shoulders higher than his neighbor who does not. The latter drops back among the uninformed laggards of the day.—[Horticulturist.]

[Thus saith our contemporary, and we most fully indorse his views. We were talking a few weeks since with a dairy farmer, a leading man in the town where he resides, and is worth thousands of dollars, and yet "I cannot afford to take an agricultural paper," as he phrased it. When engaged in the profession of teaching in the "Rochester Collegiate Institute," as we were for more than a decade of years, we "could not afford to be without a paper and more than one," with the best books, besides, published on the art of teaching. So it is now with the best of teachers and farmers, "they cannot afford" to be without the best works they can obtain on the subject, both periodicals and books. The same is true of those engaged in the professions of law, medicine and divinity; so also is it with mechanics and scientists. Therefore, we would say to farmers one and all, take a good weekly agricultural paper, and read it, and you will be wiser, and a better farmer for so doing.]

PLANS AND MANAGEMENT.

GENERAL management in farming is what is of vital importance to every one who tills the soil, whether on a large or small scale. Success in farming, as in all other branches of business, does not depend upon mere luck, as many suppose, but upon a thorough knowledge of the business, united to judicious plans, by which all work shall be performed in season. The farmer's business should not drive him, but he should drive his work, so that there need be no perplexity, need-

less haste or confusion. Farmers should keep correct accounts: by which I mean something more than merely keeping debt and credit with the trader and mechanic, highly important as this is. He should once a year take an inventory of his property, including his liabilities and assets. This may be easily attended to during the stormy days and long evenings of winter season, without serious interference with his customary labors.


DEPARTMENT OF AGRICULTURE REPORT.

WE are indebted to Jas. S. Grinnell, late efficient chief clerk of the department, for a copy of the report for 1864. The contents of the volume are as follows: Virginia, Past, Present and Future, by Samuel L. Janney; Culture and Management of Forest Trees, by J. J. Thomas; Sorghum, or Northern Sugar Cane, by W. Clough; Cotton (by Free Labor) M. D. Landon; Flax Culture, Michael Fryer; The Hop Plant, Lewis Bollman; Garden Vegetables, T. G. Huntingdon; Hybridizing Grapes, S. J. Parker; Popular Varieties of Hardy Fruits, F. R. Elliott; Gathering, Ripening and Keeping Fruit, J. W. Clarke; Holstein Cattle, W. W. Cheney; Sheep in Iowa, J. M. Shaffer; Fine Woolled Sheep, W. R. Sanford; Spanish Merinos and their Management, Henry Boynton; Wool Growing in Australia, C. J. Kenworthy; Sheep Farming in the Pampas, Rev. G. D. Carrow; Texel Sheep, W. W. Cheney; Importance of Raising and Feeding more Cattle and Sheep, C. W. Taylor; Pennsylvania Barns, Hon. Frederic Watts; Green Manuring and Manures, J. W. Wolfinger; Natural Phenomena of the Seasons, Jas. L. Russell; Game Birds of the United States, D. G. Elliot; Oology of New England Birds; E. A. Samuels, Birds and Bird Laws, J. R. Doge; Fresh and Salt Water Aquaria, Robt. A. West; Textile Fibres of the Pacific States, Wilson Flint; Consular correspondence, compiled by J. R. Doge; Wool and Woolen Mill Statistics as collected at the Department; Report of the Chemist of the Department; Report of the Entomologist; Agricultural Statistics; Meteorology of 1864.

It will be seen that the range of subjects treated of is a wide one. The names of the authors and a cursory glance over them convinces us that the articles are generally practical and interesting. The volume is

quite profusely illustrated with wood engravings of good execution. The book contains 675 pages. It is quite as good as any previous report of the department.


PARIS UNIVERSAL EXHIBITION OF 1867.

HE last *Gazette* contains despatches from the Secretary of State, relating to the Exhibition to be held in Paris next year. Mr. Cardwell says "that it is on every account to be desired that the colonies should be well represent-

ed." The space allowed for New Brunswick at this Exhibition is six hundred feet and it is suggested that a Committee should be formed to take the necessary steps, and one special Executive Commissioner appointed, who should be in direct communication with the Science and Art Department at South Kensington. It is to be hoped that the Government will take the matter in hand at an early day, and make such arrangements as will ensure the Province being represented on that occasion.

FARM OPERATIONS.


SEASONABLE HINTS.

VERY one should know long before spring commences, precisely what he is able to accomplish, and what he is going to do. If contingencies are depending, plans should be well laid for each contingency. Taking the number of days from the opening of spring until planting time, and allowing one-third at least for raining days and accidents, he should know by the amount required for each day's ploughing, how he will come out in his undertakings. If he finds he has marked out too much, he ought to reduce at once the proposed extent of his operations. If he does not, he will be sure, in the first place, to do his work in a hurried manner, and secondly to plant too late—the two great leading causes of bad farming. These will be followed by weedy crops, because he will be behind hand all summer; and his labor, for which he pays two dollars a day, will really cost him four or five dollars, because it will be continually applied to a disadvantage,—to the wrong end of the lever. It is more than usually important, therefore, to examine and digest plans thoroughly during the present winter.

In the meantime, everything practicable should be done now that may interfere with the regular order of labor after spring opens. Fences should be repaired in open weather to prevent that worst of all interruptions—intruding animals. A half-year's fuel should be procured and prepared for use. All the manure that is accessible should be drawn out, and spread in the best manner where it is intended to be used—it will be of more value to the coming crop for this early application, and the ground will not be cut up and poached by the horses and wagon wheels used for drawing out the manure on the soft soil of spring; and

lastly, and by no means least, procure the very best implements, and have them completely ready when the campaign opens. A hoe that will enable the laborer to accomplish fifty per cent. more in work, will not be long in paying for itself at present high wages. The plough that inverts the soil in the best manner, and runs with the least force of draught, will add many dollars' worth of time to the man and team who used it throughout the season.—*t*
Gentleman.

EPILOBIUM, OR NORTHERN COTTON.

HE samples referred to in the following communication were received at London too late for exhibition. We therefore take this means of drawing attention to the subject, and invite any who may feel sufficiently interested to call at the Office of this Board, and examine the samples for themselves.

From the lightness and softness of the fibre, we should judge that it is admirably adapted for the finer descriptions of wadding, or batting, and also as a material for the finer qualities of paper; but we do not think it is of sufficient strength for the purpose of cloth, twine, or cordage, unless mixed with a fair proportion of wool or flax, as shown in a portion of the articles sent for exhibition—these consist of socks, mitts, lampwicks, cord yarns, twines, a wadded hood, carded and uncarded fibre, and *Epilobium* seed.

To the Secretary of the Agricultural Association of Upper Canada, at London.

Sir,—Permit me to address you upon a subject which, in my humble opinion, deeply concerns the northern portion of the American Continent, whose inhabitants are suffering from the high price of cotton, particularly in the most necessary articles of

which it has hitherto been the component element, viz., batting, wadding, wicking, cord, twine, &c. The fact, that in the county of Oneida, N. Y., children's feet were frozen in bed during the last winter, is sufficient to shew the magnitude of the evil to which I allude, and the importance of the remedy which I beg leave respectfully to submit to the consideration of "whom it may concern."

At the recent Fair of the State of New York, held at Utica, on the 12th of September, I exhibited specimens of the above enumerated articles, made of the fibres of the "*Epilobium angustifolium*," vulgarly known hereabouts, as Willow-weed, Deer-weed, Queen of the meadow, Indian wick-opee, Fire-weed, &c. A diploma and favorable notice was awarded, but the unanimous approval of "the million," and particularly of the women from the rural districts, gave me more satisfaction. Mattress, pillow and comforter, all made of this material, were especially the objects of mothers with young families; then came the mittens, socks, hoods, &c., all of which were pronounced equally as warm as cotton, and preferable from their lightness and a softness, which were greater than that of cotton, as you will observe by the samples I send you, by express of to-day.

I am informed, that the crop of *epilobium* is abundant in Canada, and now just ripe for the harvest. If this be true, I need hardly urge upon Canadians the importance of immediate attention to the subject. I have gathered several bales, for the purpose of experiment, but it is too late to do anything more in this latitude until next year. I understand that on our northern boundary, in the lumber districts, there are hundreds, even thousands of acres of this herb growing spontaneously, which may be secured by the women and children who will soon be shivering for the want of it.

The expense of gathering and cleaning the pods is much less than that of cotton, and that it is in every respect cheaper, is evident from the facts, first, that it grows upon lands which are comparatively worthless; second, that it is perennial and requires planting but once, or rather *not at all* for it is *spontaneous*; third, that it may be mown or cradled, whereas the cotton must be picked, *pod by pod*. This year, it is true, we must pick, but as soon as the logs, &c., are removed, the cradle or mowing machine may be used.

My "*modus operandi*" has been to em-

ploy women and children to pick the stems upon which the pods grow, and when they have brought them to their houses, to strip the pods from the stems, spreading them in the sun or in a dry chamber, in order to cure them—the pods will open, and should be picked before they open, or the fibre blows away. When thoroughly dry, and if exposed to the wind, even while drying, they should be put in a sack or sheet, to prevent loss of fibre. Then take them to the machine for cleaning, which is a very simple operation, and the fibres may be immediately stuffed into bedding of the very warmest and lightest kind.

Wadding for hoods, &c., can be made by the same machine, (see samples thus made) carded on fine cotton cards, and spun on a common wheel by hand; threads are made, and from the threads, lampwick, candlewick socks, mitts, twine, &c., and you see by samples. Mixed with wool or pure and simple, it answers the purpose of keeping warm and light, by our own household labor, at less cost than cotton. We are now paying from 6cts. to 7cts. for lampwicks *at retail*! Mattresses are from 50cts. to \$1! Batting, 60cts. to 70cts. per pound! Cotton, 45cts. to 50cts!

It is not yet to late too remedy this crying want; but not a day should be lost.

Yours, respectfully,

RUTGER B. MILLER.

Utica, Sept. 20, 1865.

CHANGE OF CROPS.

IT has been fully demonstrated, as every farmer knows, or ought to know, that different crops draw different fertilizing constituents, in some degree, from the soil, while all are sustained by its general fertility. Science has not taught us this, but every good, observing farmer has proved it by his own practice. The cotton and tobacco crops of the South, by cultivating the same lands many years in them, have shown conclusively that no soil can stand a constant drain upon it by any one crop, without becoming exhausted, unless sufficient manure is applied, in some shape, to replace annually the lost constituents drawn out by the crop.

Take, for instance, Indian corn, and plant a fertile field with it a series of years, and apply no manure, and such field will become almost barren for the production of that crop, while it will produce a fair crop of potatoes, or some other crop that requires

different fertilizing properties of the soil, in the main, to sustain and mature it. The knowledge of such results has caused farmers to adopt a rotation of crops, which ends with seeding to the grasses after two or three crops have been taken from the soil.

No rotation, or change of crops, has ever been discovered, or recommended, that all farmers can practice with equal success. If the lands are manured heavily, as the market gardens around large cities, no rotation is necessary, as it has been fully proved, that by the application of even street manures lands will produce "truck" as long as time lasts, and require no seeding to grass. It is the same with farm crops, and apply a good coat of barnyard manure to a field yearly, and it will produce wheat, corn, or any other crop a hundred years without a change.

But the masses of our farmers have only manure enough to put on a few acres, and the great object with them is, to keep their lands in good condition without manure, and at the same time obtain fair crops from them. That can be easily done. Take two crops from any land of fair fertility, then seed it to timothy and clover, with the third crop, which should be any of the broadest sown grains, though oats are generally such crop, and after the third year it has been in grass, it may be cropped twice again, and then re-seeded to grass as before, and so on to the end of time, if you please, and such lands will remain generally, if properly seeded, in good heart.

In such a case it is the *clover* that replaces the lost fertility chiefly, as its roots penetrate deeply into the earth, and in their decay supply food for future crops. Where clover will not grow—and but few lands exist that will not produce it in a temperate latitude—we know of no way to render land fertile, but by the application of manure in some shape, and it is very important, therefore, that pains be taken to get a good "catch" of clover on all lands, and especially on such as are difficult to make produce.

We consider the practice of sowing the grass seed, and harrowing it in with the grain crop, as bad management. Nor is that of first harrowing in the grain, and then using the same coarse-toothed harrow to cover the seed, much better. Our system is, first to plow from 8 to 10 inches deep, where the soil is strong, then fill the dead furrows with the plow, then harrow

once in a place, and even the land where there are holes and hollows, sometimes using the harrow reversed and loaded with stones, where the land is quite rough, then we sow the grain and harrow it in next the timothy and clover mixed, and put on without stint, and *evenly*, and then cover with a light bush drag, and wind up by tolling the land with a heavy iron roller, and if that land does not produce a good crop of clover and timothy the next season, it will be because it is not capable of producing any crop whatever.

THE WEEDS—HOW TO DISPOSE OF THEM.



WEEDS are the gardener's enemies; and very persistent enemies they are, maintaining a constant campaign against his success. The thorough gardener understands this perfectly well, and is no less hostile to these ceaseless intruders than they are to him. On his premises they are not allowed to flourish; one of them scarcely appears above the soil before it is rooted up and destroyed.

But, unfortunately, there are some who are not so vigilant. The noxious weeds flourish, and deprive the useful vegetables of the best part of the nourishment which they would otherwise obtain. And in such cases, as autumn approaches, instead of clean beds of garden vegetables that delight the eyes of the housewife, we see a perfect jungle of grass, dockweed and other pests, an unendurable plague to the prudent husbandman.

Now, good reader, if this be the unhappy plight of your own garden, it is time to change your tactics; and though it be late in the season you can begin now. You need not wait until another spring before you begin the work of improvement. To be sure, you cannot prevent the growth of these pests, that may have already taken place, but you may prevent their ripening seed for another crop; and, moreover, you may turn this growth to some account in improving your land.

This is the way to dispose of them: Clean out your garden, removing as far as possible every weed, root and branch, but do not leave them scattered all over the surface of the ground. If you do, they will be very apt to take root and grow. Besides, if left exposed directly to the sun, their fertilizing values will be wasted, for the greatest part of their substance will decompose and escape by evaporation. The

best way is to gather them into heaps, and cover with a little dirt, and leave them to decay. This will leave the ground clean, and it will remain so much longer than it otherwise would; and they will assist to improve the soil which their growth has helped to impoverish.

Oberlin, O.

RUSTIC.

STIRRING THE SOIL.



ATURE requires assistance in the production of crops, or the growth of weeds will far outstrip that of the cultivated plant. It is not simply sowing and planting, which are so generally considered as constituting the farmer's busy season, that will insure large returns to the husbandman, but the persistent disturbance of the surface and subsoil, so as to accomplish their thorough and continuous æration, until the growing plant has attained such a condition of maturity as to take care of itself. Indeed, if there is a period in the duration of the "busy season" on a farm, which demands superlative industry as the condition of successful agriculture, it is the month or two which immediately succeeds the germination of seeds, when innumerable weeds spring into vigorous growth, especially upon rich soils, and the intense heat of the sun bakes and hardens the surface of the ground until it becomes literally the agricultural pie-crust, which the air, charged with fertilizing dews, cannot penetrate, and from which the moisture so necessary to the sustenance of plants and their appropriation of the soluble constituents of the soil and of manures, has been abstracted by a dense growth of weeds and grasses. For it must be observed that the latter, in addition to the consumption of plant food, are inveterate devourers of all the moisture within reach, so that the soil overgrown by weeds, however rich in manures, is unfit for the nourishment of plants on account of the drouth prevailing beneath the surface. This fact may be readily proved by examining a spot of fallow ground in comparison with one sustaining a luxuriant growth of vegetation. In the one case, the fallow ground appears dry and dusty; in the other, the refreshing greenness of the grass leads us to infer that there the soil is moist and in no danger of drouth. But the contrary is the fact; for on disturbing the surface of the bare spot of soil, we shall find it full of moisture, while underneath the grass plot not a sign

of water will usually be discovered in a dry time. This plainly shows that in order to afford crops the moisture necessary to perfect their growth, we must not allow weeds to spring up and supplant them during any stage of their progress; and to insure the destruction of weeds, the hoe and horse implements, especially the latter, must be brought into constant requisition.

From the above remarks, the observant reader will draw two important conclusions.

The constant cultivation of crops is necessary both for the destruction of weeds and grasses, and also the admission of air throughout the texture of the soil, whereby the water always resident in the atmosphere may be deposited in the form of dews, and carried by capillary attraction from the roots of plants throughout the entire organism. This result cannot be achieved except by æration of the soil through its constant disturbance by the hoe, the cultivator and subsoil plow. The hoe and the cultivator striking a few inches below the surface, break the crust which obstructs the admission of air, and thus not only destroy the incipient growths of weeds, but obviate the effects of drouth, while the soil is enriched by the fertilizing gases with which the atmosphere is ever laden. The subsoil plow acts still more efficiently in the same direction running, to the depth of ten or twelve inches between the rows of corn, potatoes, turnip or other root crops; it lifts the soil continuously several inches from the bottom, altering the mechanical relation of all its particles, and leaving it in a loose and friable condition, easily penetrable by the roots of plants and ærated through all its extent by the superincumbent atmosphere.

Briefly, therefore, it may be said that the incessant cultivation and æration of the soil between the rows or hills of growing crops is of equal importance to supplying them with manure. In fact, manures may be dispensed with for years—though to the ultimate injury of the soil—provided cultivation is sustained without dangerous interregnums, during the growth of plants, and the preparation of soil for subsequent crops answers the requirements of the case. —Without the last named requisites, the application of manures, however liberally supplied to the land, will not insure large crops to the agriculturist, for not only fertilisation from outside sources, but the presence in the soil of all the conditions of vigorous and healthy growth are essential to the largest results from the operations of

the farm. The proximate of the soil as well as the valuable portions of manures fitted for appropriation as food for plants, are only soluble in water, and without its aid cannot be made available to crops. A thorough aeration of the soil will go far to supply the necessary moisture even in seasons of drouth.—*Working Farmer.*

HOW MANY CABBAGES PER ACRE.

THE great cabbage growers about New York city generally calculate upon 10,000 heads per acre, allowing four superficial feet to each plant, which gives a surplus of 3560 feet for missing plants. We suppose the crop may average five cents a head, giving \$500 an acre, which considering it is a second or third crop of the season, affords a pretty good return. Cabbages often follow peas, with which radishes or lettuce has been grown; and ground from which an early crop of potatoes has been taken is often planted with late cabbages. The soil for this crop must be rich, and manure used unsparingly. Hog manure is not approved in this vicinity; it is said that it produces "club footed cabbages." The gardeners prefer rotation for this crop, though we have known good cabbages grown upon the same spot a dozen years in succession. Near a city there is no doubt about the profitableness of the crop; and we believe it a valuable one for food for cattle and sheep. It increases the flow of milk, but it does not improve the quality. Irrigation is valuable where cabbages are grown, as they require a vast quantity of water as well as manure, with deep tillage and thorough cultivation.—*Tribune.*

SORGHUM CULTURE.

IHAVE raised Sorghum every year, except 1864, since it was first introduced into the United States, having been one of the first that received seed from the Patent Office. One year I succeeded in raising, from a small piece of ground, enough cane to make at the rate of 426 gallons of molasses per acre. The ground was plowed very deep, and was as rich as manure could make it, besides being naturally rich. Having raised it for several years, and having observed closely how it turned out, I give it as my opinion, that the ground that will produce one bushel of Indian corn (shelled) will produce four gallons of molasses; and any ground that will produce

a good crop of corn will produce a good crop of cane. Yet I believe a ton of cane grown upon upland will make more molasses than the same amount grown upon rich, alluvial bottom land.

To raise a good crop, prepare your ground as you would for a good crop of corn, only earlier. Do not fail to plant early; and be sure to have good seed. Almost every one knows that sorghum and broom-corn will mix so as to spoil the seed. But I suppose I will be laughed at if I state what I know from experience to be a fact, that to plant sorghum by the side of Indian corn for two or three years, will so degenerate it as to render the seed unfit for use. Perhaps some will try to philosophize this out of existence. To such I would say, try it. Having your ground well prepared, mark out in shallow furrows, two feet apart each way; plant 8 to 12 grains in a hill, if you have plenty of seed, and cover with the dirt three-fourths of an inch deep, and pat it well with the hoe, or step your foot on the hill; by doing so it will come up more evenly. As soon as it will do to work, thin it out to four stalks in the hill. Tend it well with shovel, plow and hoe, and never mind the suckers.

About the time of frost in the fall, take a square stick, about the size of a walking cane, and by striking down each side of the stalks, you will strip them very quickly. Be careful not to break or bruise the stalks, for they will soon sour if you do. It is better to let the cane have two or three hard frosts before cutting and working it. When you begin working it the quicker you finish the better.

LUTHER BROWN.

Hickory Corners, Mich., Dec. 28, 1864.

TOBACCO CULTURE.

THERE are quite a number of varieties of tobacco cultivated, suited to the various soils and localities, and for the various uses of different manufacture, of chewing, smoking, snuff and finest and best for wrappers to cigars. The successful culture of the last quality as pursued in the Connecticut River valley is what I will speak of in the following essay. The Connecticut seed leaf is the variety best suited for wrappers, and the one cultivated.

Seed.

Procure pure seed from a reliable source; having started with seed of this description

it is easily kept pure, by growing a sufficient quantity to last for several years; it will keep good for ten years or more; if it will pop when thrown on the fire it is good. At topping time let a sufficient number of the earliest and best plants run up without topping, (one plant will grow seed enough to produce plants for five or six acres). When the crop is ripe strip the leaves from the stalks, and set a stake to tie them up to, and to support a rug when necessary, to cover them over on cold freezing nights. When the seed bolls have turned quite brown and dry the seed is ripe, and the stalks may be cut and hung up under the roof of your building, where it will not be liable to be disturbed. When wanted to use, select the best, and most central bolls, and rub out the seed with the hands, and sift it through a fine sieve.

Seed bed.

A rich, deep, sandy loam, neither too wet nor too dry, situated with a south-eastern exposure, protected from cold winds, &c., by buildings, or natural obstructions, is the most suitable. A bed twelve feet wide and sixteen feet long will produce plants sufficient for an acre. As soon as the frost is out in the spring, and the ground can be worked, the bed should be prepared, for the earlier the plants are brought forward the more sure the crop. Several ways are practiced in preparing the bed; but I think the following will give as good, if not better, results than any other: Plow or spade the bed in the fall to the depth of ten or twelve inches. In the spring plow it five or six inches deep; and into each furrow as turned, strew quite thickly guano of the best quality; after plowing harrow and rake, to make the soil the finest possible. Sow on a bed of the above size from two to three pecks of the best powder-ette, and rake it in thoroughly; then sow your seed broadcast, having previously mixed it with about a pint of plaster or ashes, at the rate of a full table spoon to each acre to be put out; finish off by rolling the surface with a heavy garden or field roll; cover with brush to keep fowls, &c., off. The after attention needed consists in keeping it perfectly clear of weeds, &c.

Soil.

Tobacco will grow in almost any soil; but some soils are better adapted to produce a fine, good article than others; the best is a sandy loam, which will suffer from neither drouth nor wet. Heavy, black soils

will produce more weight, but of a coarse quality and rank flavor, not fit for wrappers.

Manuring. &c.

Tobacco is a great feeder, and grows rapidly when started, consequently it needs a large quantity of the best manure. No kind is equal to fine, rotted stable, hog, or yard manure; of these, there should be put on each acre at least forty loads, as much as can be put on an ox cart body; this should be spread over the ground evenly. Sward ground, if properly prepared, will grow good tobacco, but not as heavy as previously plowed land. Plow turf about the middle of May, not less than ten inches deep; let it lie about ten days, then harrow with a heavy drag harrow; cart on and spread your manure; have it well fined; then cultivate and harrow it in thoroughly. When your plants are about large enough to set, harrow again, and mark off your land into rows three feet eight inches apart, with a marker made for the purpose. Now, with a planter, haul the soil into ridges for the rows, going once or twice, as may be necessary. Having ridged it, take a wheel from an old fashioned large spinning or quill wheel, and fasten blocks on the outside rim two and one-half feet apart: have a shaft and handle, and with this pass over the ridges, marking the places for hills, two and a half feet apart.—Now, with your hand hoe, open the holes where marked; keep the rows straight. Put in for fertilizers, guano mixed with plaster; at the rate of 150 pounds of the former and 250 pounds of the latter to the acre; cover with fine soil, from two to three inches deep; make a spot a little depressed for the plant. Old land will be best plowed twice, the first time about the first of May, when you plow in your manure as much as previously directed, about five or six inches deep. Plow again about a week before your plants are ready to set, this time one or two inches deeper than at first; harrow and make the soil as near to fine garden mold as possible, then lay it off in rows, and fit as before described.

Transplanting.

It is essential to get the plants set as early as possible, from the 1st to the 15th of June is best, but any time in June will do. A moist or wet time is best for transplanting, but it may be done at any time after the plants attain a proper size. The leaves of the plants should be at least two inches in breadth before setting, the larger

and stronger the better: When no suitable wet time occurs, you may water your ground and set the plants, and then water again; no slight watering will do, but at least a quart of water to a hill should be used if the ground be at all dry. Set your plants in the afternoon, after watering and letting it soak in; have one to follow the setter, and water the plants as set; the next morning water again, and if properly and thoroughly done the plants will not wilt. Any one who has set cabbage or lettuce plants can set tobacco plants, by using care in pressing the dirt close up to the roots, and not pinching or covering the buds.

Cultivation.

As soon as the plants take root, begin to use the cultivator and hoe. Stir the ground slightly close around the plants at first; afterwards more thoroughly; let the cultivator be run through the tobacco once in ten days, followed by the hoe, till the tobacco gets too large to admit of going with the cultivator; after which keep all weeds down with the hoe, and stir the soil as much as possible, without injury to the plants.

Worms.

The cut worm will trouble the plants almost as soon as set, by eating them off close to the bud; hunt them out and destroy them, and replace any missing plants. The green worm is next to be fought and killed, or he will destroy your tobacco. He commences deprecations when the plants get a foot in height, or before sometimes, and works till the tobacco is hung in the barn, and longer unless picked off and destroyed. The eggs of the miller which produce the worm are laid on the under side of the leaf, and are a little lighter color than the leaf, and of the size of a pin's head; all of these destroyed are so many worms destroyed in embryo. The miller is of a gray color, with orange colored spots on each side of the body, and about as large as a humming bird; has a long trunk-like tongue; when not in use is closely coiled up and not observable; they are seen hovering about during twilight, at which time they may be caught and destroyed.

Topping.

The tobacco not all coming into blossom at once, it is customary to let the earliest sun a little past, and then top all that are in bud at once. Judgment in topping at the right point so as to have all the leaves

ripen, and not so low as to waste, is necessary; generally, all above where the leaves are six inches broad are broken off, leaving the plant about two and half feet high; an even height is desirable to give uniformity.

Successoring.

As soon as the top is broken off the succors start, at first near the top, then lower down; these should be kept broken off to let the growth go into the leaves. The last successoring is done immediately before cutting.

Harvesting.

Tobacco should be cut and hung in the barn as soon as ripe. On ripening it assumes a spotted appearance, becomes more harsh and brittle, and the leaves are easily broken when folded. It is better not to let it get fully ripe before commencing to cut, as some of it may get too ripe and rust, and waste other ways. A rounding, sharp-pointed hay knife or a backed saw is the best to cut with; lean the plant over a little with the left hand, and with the cutter in the other give a slight cut, and sever the stalk under the leaves, and close to the roots; lay it carefully down and let it wilt on one side, then turn it over to wilt the other side, and allow it to wilt sufficiently so that by careful handling it may be loaded on a wagon; and hauled to the barn. Have ready a one-horse wagon, with a platform on the running gear about twelve or fourteen feet long; load the tobacco cross-ways of this, butts uniformly one way; haul it in and unload convenient for hanging.

Curing Barns.

These are built in size according to the quality of tobacco raised. The posts should be 15 feet long, to hang three full tier, and a part of a tier on the purlin beams; drop the main beams one foot, and divide the space below into three equal spaces, by two girths around and through the building; ventilate in the roof, and by hanging every other board of the siding on hinges.

Hanging.

Twining up on polls is the most expeditious and a good way: but on account of the enhanced price of twine, laths have come somewhat into use; these are four feet long, sawed or rived from straight-grained timber, and made smooth, $\frac{1}{2}$ x $1\frac{1}{4}$ inches, tapered at one end to fit an iron socket. Then arrange 3 x 4 inch scantling on the girths, four feet apart from centers,

on which to rest the laths. The tobacco being convenient to handle, a spear or iron socket about 6 inches long, $\frac{3}{4} \times 1\frac{1}{4}$ inches, tapering to a point at one end is necessary; and the laths are shaved at one end to fit the socket without bringing them to a point. Bore a $1\frac{1}{2}$ inch hole in the barn post, three inches deep, a little slanting down, $3\frac{1}{2}$ feet from the floor. Put the end of lath not tapered into the hole, and the spear on the other end; take a stalk of tobacco in the right hand about a foot from the butt, with the left grasp the butt, and place the stalk against the point of the spear, and with a jerk run it through, and slip the plant on to the lath; fill the lath, putting the plants far enough apart not to crowd, then remove the spear and lay the lath on the floor, convenient to raise into its place—thus go on and spear the whole load. Have a pulley and rope to raise the full laths into the upper tier; one can raise them while another is aloft and placing them. Do not put them so near as to crowd, but have room for a circulation of air.

Stripping.

When the juice has all dried out from the leaf stems, it is cured and ready to strip. Watch for a mild, moist time, and open your buildings to let the tobacco dampen, and as soon as it is sufficiently damp to handle without rattling or breaking, take it down and bulk it, butts out and tips in, lapping about a third its length; now cover and press it down with weights to keep from drying out. Strip one leaf at a time and make it into hands [hanks—Ed.] of about half a pound each, and neatly tied up with a single leaf band, by winding it three or four times around close to the butt, spreading it about two inches, and finish off by tucking the end of the leaf into the hand to fasten it. If the tobacco is very even and perfect, it is made into two sorts, wrappers and fillers, and kept separate. If not as perfect it is made into three sorts; the poorest are the ground leaves, the next are imperfect leaves, and last of all, perfect leaves; each sort is neatly tied into hands and kept separate. It is bulked and pressed down as fast as stripped, in some suitable place, where it can remain without injury from dampness, wind, or vermin, until sold to the tobacco dealer, or packed in boxes. If left in a bulk, or pressed into boxes, after a while it goes through a sweat, which makes it "tobacco," and fits

it for manufacturing. If it is to be sent to market it will need to be cased in boxes two and one half feet square, and if of large growth three feet ten inches long; if no more than medium, three feet six inches inside length will do. Such a case will hold 375 pounds, by packing it in, butts to the ends of the case, the tips lapping, and pressing with a lever or tobacco press made for the purpose. Usually, we pack in boxes soon after stripping, choosing a mild and rather moist time, when the tobacco is pliable.

The profits of tobacco raising I can illustrate in no better way than by giving the following statement of a crop raised on a short acre of land belonging to my father, three-quarters of which was sward that had been laid down to grass some ten or twelve years; the whole piece was set in a very dry time in June and watered out. The soil was a sandy loam. The results were attained only by thorough care in culture, and neatness in every part. I give no prices for labor, leaving the reader to supply those according to scarcity or abundance in his locality:

DR.

| | |
|--|--------|
| To $11\frac{1}{2}$ days firing and carting manure, .. | |
| " 2 " 4 cattle team, man and driver plowing, | |
| " 2 " Ox team hauling manure, .. | |
| " $1\frac{1}{4}$ " Man and horses cultivating and harrowing, | |
| " 5 " Work fitting, | |
| " $\frac{1}{2}$ " " two horses in fitting, .. | |
| " 6,000 tobacco plants, | \$9 00 |
| " 4 days work watering and setting, .. | |
| " 8 " " hoeing and 1 day horse, | |
| " 5 " " worming and topping, .. | |
| " 6 " " succoring, | |
| " 14 " " harvesting, | |
| " $12\frac{1}{2}$ " " stripping, | |
| " 6 cases and casing, | 15 90 |
| " 7 lbs. twine, 50c, | 3 50 |
| " 40 loads manure, | |
| " Plaster and guano, | 8 47 |
| " Interest on land, | 24 00 |

CR.

| | |
|---------------------------------------|------------|
| By 2,389 lbs. tobacco, worth 50c. ... | \$1,194 50 |
| " 2,183 wrappers and 206 fillers, .. | |
| " One-third manure unspent, | 40 00 |
| " Tobacco stalks, | 5 00 |
| | <hr/> |
| | \$1,239 50 |

South Windsor, Conn. Wm. H. WHITE.

REMARKS.—Our correspondent is as well qualified, we believe, to write on the above subject, as any man in this country, and it will be well for tobacco growers to heed his remarks.—ED.

THE VALUE OF A TON OF STRAW.

PEOPLE don't know the value of straw," said my ploughman to me to-day, and so careless are people about it that I have considerable difficulty in preserving mine free from damaging rains. Taking the country generally, straw is looked upon as only fit to spread about open farm-yards, to sop up the rains which have latterly been carrying away the farmer's profit in the shape of strong tea, leaving him only the tea leaves. As straw can be thatched for six-pence a ton, it does appear to me a grievous neglect and waste of valuable property to allow it to stand unroofed, and become rotted by the weather. I produce on my farm of one hundred and seventy acres, about two hundred tons of straw annually, and whether I realize five shillings, ten shillings, fifteen shillings, or twenty shillings a ton of it, makes a considerable difference. I wish that our agricultural society would offer a prize for a correct and practical, as well as scientific estimate of the value of straw of all kinds, as food, manure, or litter. I am convinced by my own practice, that straw, (particularly bean, wheat and oat,) has a considerable value for feeding purposes, when rendered available as food. My labourers often say, "Ah, master, you could not keep half so much stock as you do if you did not consume your straw." Of course, near large towns, farmers will sell their straw and bring back manure. So important is straw considered as an article of animal food in Spain, that Messrs. Garrett are making machines, driven by steam power, for "straw pulping," so that it is rendered soft and silky—in fact, duly prepared for animal digestion. I am assured that in all warm Eastern countries straw is always used as food for animals. 'Tis said, "wise men come from the East," and in this case I am sure that our English farmers have something to learn. Let us see what straw is composed of, and why it should be valuable as food, and especially as a substitute for hay, so as to set free for the growth of corn and roots a larger area. The late Mr. Horsfall said in that excellent paper of his (the best, in my opinion that ever was written,) on Feeding Stock and Dairy Management, (Soc. Jour., vol. 13, p. 173,) "I am satisfied that the most economical use of food rich in albuminous matter is together with straw or other materials which are deficient in this element." This

I had proved to be true. He especially commends bean straw. He says, "In wheat straw, for which I pay thirty-five shillings per ton I obtain for one shilling and sixpence thirty-two pounds of starch, (reduced as oil, eighteen and one half pounds from one hundred pounds of straw,) available for the production of fat or for respiration." I have long since adopted straw as food, and should consider myself foolishly unprofitable to waste it uselessly in open and wet farm-yards. I believe that cabbages would have been much more extensively grown, had farmers known how necessary it is to give with the cabbage a large quantity of straw chaff, without which much of the cabbage is wasted.—*J. Mechi.*

QUALITIES OF HAY.

TIMOTHY for muscle; clover for milk; corn for fat. The timothy should be cured in full blossom, or a little later. Clover should be cut when first reddening, before it is fully matured. This is the time, and the only time, to cut clover. Then all the nutritive juices are in perfection. Such hay—or grass cured—has a slight laxative tendency—just what is wanted in winter. It will be greedily eaten, even when somewhat touched with mould—and give milk with profusion. This never fails. On the other hand, timothy, instead of secreting milk, will form muscle; hence, the hay for horses, and hence preferred so generally. Straw, when early cut and properly cured—not dried—has somewhat the quality of clover. But, oh! how neglectful are we about the curing of straw, when it is one of the finest of employments? There is a fragrance about such straw, and the pale green tint, which make it a valuable and a most pleasant fodder.

Timothy, then, for horses; clover for milch cows; and straw, well cured and cut, for either. It is excellent to mix with meal, or feed carrots and beets with. We would, when thus fed, make but little difference between good barley, or even oat straw, when early and properly cured, and timothy for stock, especially cows in milk. For young stock, tender timothy is excellent. We are so reckless in feeding. We feed promiscuously; we feed what we have to feed without taking much pains to get a proper selection, or to prepare it well. For instance, we feed few cornstalks, raised on purpose for fodder, when yet this is one of

the cheapest and one of the best hays that can be fed; and in the summer, in a

drought, it is of the greatest advantage, fed out green.—*Rural World*.

BREEDERS' DEPARTMENT

HOW TO CUT AND TRIM PORK.

THE following directions, says the Baltimore Sun, may be found useful at the killing season, for such of our readers as are able to go the whole hog :

Have the hog laid on his back on a stout table. Clean the carcase of the leaf fat. Take off the feet at the ankle joints. Cut the head off close to the shoulders, separating the jowl from the skull, and open the skull lengthwise on the under side, so as to remove the brain fully. Remove the backbone in its whole length, and with a sharp knife cut off the skin—then the fat, leaving only about one-half inch of fat on the spinal column. The middlings or sides are now cut from between the quarters, leaving the shoulders square shaped and the ham pointed, or it may be rounded to suit your fancy. The ribs are next removed, partially or entirely from the sides. The trimmings or fat from the hams, and flabby parts of the sides, are rendered up with the backbone strips for lard. The sausage meat is cut off from the leaf fat and ribs; and other lean pieces are used for the same purpose. The thick part of the backbone that lies between the shoulders is called the chine; it is cut from the tapering bony end, and latter part called the backbone by way of distinction. The backbone used while fresh; the chine is better after being smoked.

TWO-THIRDS WASTE-ONE-THIRD WOOL.

THE trial that had been made this year upon shearing "greasy Merinos" and cleansing the wool, has proved that two-thirds of the fleece are waste—that farmers are expending feed to produce something upon their sheep which has

no value whatever, except in the manure heap; and as it cannot be washed out with water, they are paying for the transportation of two pounds of manure with every pound of wool sent to market, and the pertinent question that we now put is: "Can they afford to pursue such business?"

We are aware of the mania for growing grease, and that in opposing the policy, we have to combat one of the strongest—for it

is a great money-power—interests connected with American agriculture. Yet, as we have no personal interest whatever beyond the great and permanent good of the greatest number, we can afford to "hammer away," as we have been accused of doing, "at the fine wool sheep," but not "for the purpose of driving them out of the country for the benefit of fine wool importers."

That is not so; we are opposed to importing fine or any other wool, because we believe that it can and should be grown of American grass and grain, and that the people can and should grow and use fine wool in far greater proportion than they have been doing during the cruel reign of King Cotton. We believe wool-growing a profitable branch of farming; we do not believe it profitable to grow fleeces that are two-thirds waste. We have already published several tables to show the truth of this statement, and here is one more taken from *The Prairie Farmer*, showing "the result of a sheep-shearing which took place in Parke County, Indiana, May 27. Some of the sheep had been sheltered, others had not. The several fleeces had been scoured and dried at a woolen factory in the neighborhood and were weighed accurately before and after scouring, as I can of a truth testify, being present at both weighings. Now for the result:

| Nos. | Age of Sheep. | | Weight of Sheep. | | Cross weight of wool. | | Net Weight. | |
|---------|---------------|------|------------------|------|-----------------------|------|-------------|--|
| | Years. | lbs. | oz. | lbs. | oz. | lbs. | oz. | |
| 1..... | 2 | 77 | — | 10 | 6 | 4 | 2 | |
| 2..... | 1 | 80 | 8 | 10 | 7½ | 4 | 3 | |
| 3..... | 2 | 126 | — | 10 | 11½ | 4 | 6 | |
| 4..... | 2 | 96 | — | 15 | 1 | 4 | 5 | |
| 5..... | 1 | 74 | — | 8 | 8½ | 3 | 1 | |
| 6..... | 4 | 107 | 8 | 9 | 13½ | 3 | 15 | |
| 7..... | 1 | 67 | — | 8 | 8 | 2 | 15 | |
| 8..... | 4 | 162 | 8 | 15 | 3½ | 4 | 12½ | |
| 9..... | 1 | 70 | 8 | 14 | 5½ | 3 | 7½ | |
| 10..... | 1 | 50 | — | 8 | 7 | 3 | 9 | |

Taking the ten fleeces together we find that their average weight, as shorn was 11 lbs. 1 oz.—the average as cleansed was 3 lbs. 14 oz.—a shrinkage of a fraction over 65 per cent. or not quite two-thirds waste to one-third wool.

Such exhibits as this should be carefully considered by every farmer who has or who proposes to have, the same, class of sheep upon his farm. The argument

that he can sell such wool is factitious; or that the progeny of such sheep bring a great price and sell readily. They will do so while the greasy epidemic prevails. That will not endure forever. Do not fancy that you are selling grease and dirt. The manufacturers are too shrewd to buy it; they only take it with your wool because they cannot get it clean. If you will produce *fine* wool without the fashionable tar, you will soon find whether you are now selling dirt, or only paying for its transportation and the cost of freeing it from the wool. There is just one other thing which you may as well begin to learn about sheep husbandry, and that is the consumption of mutton is increasing most enormously, and that sheep meat for yourselves or others can be produced cheaper than that of any other domestic animal, the dirty hog not excepted. *N. Y. Tribune.*

CATTLE FAIRS IN CANADA.

To the Editor of the *Agriculturist*.

SIR,—The columns of your journal being always open to give and receive all information that pertains to the progress and best interest of the agricultural public, I am induced to ask the opinion of your interesting periodical upon the following question:

Have the fairs for the sale or exchange of cattle sheep and horses, that were started two or three years ago in various parts of the country, proved satisfactory or come fully up to the expectations of their promoters and friends?

I refer particularly to the fairs held in the more rural parts.

In short, I am desirous of knowing what prospect of success a project of this kind would have, if established in a district purely agricultural, and in which the cattle and sheep are not in any way inferior to those in any of the eastern Townships. I may also add that the nearest market is forty-five miles distant.

Yours respectfully,
JOHN MACLEAN.

Leeds, January, 1866.

The question of our correspondent is one of much importance, but has not yet, to our knowledge, been practically solved. Quebec is the only place where cattle fairs are regularly held every three months, and that with much success. In the rural districts the experience has yet to be made, but would prove, in our opinion most suc-

cessful. On the other side of the Atlantic such fairs are of daily occurrence, either in France or in the British Isles. They are the best possible market both for farmers and buyers, and are numerously attended. Why they should not have been adopted here, long since, we have never been able to understand; and our correspondent would make himself most useful, by using his influence in starting a country fair in his own locality, thus setting a good example to the other counties in the Province.—*Editor.*

KEEP THE BEST STOCK.



SOME farmers are in a habit of selling their best live stock, and keeping the poorest to breed from. This is bad management. If a farmer has a good cow, she is worth as much to keep as to sell. The same applies to all other stock. The rule should be, *keep the best* and sell the poorest.

We will illustrate a case as follows:

Farmer A has a cow that gives 20 quarts of milk a day, from which 9 lbs. of butter are made in a week, worth 30 cts. per pound. He also has a cow that gives but 10 quarts, from which four pounds of butter only can be made in a week. One cow he values at \$80, and the other at \$40. He sells the \$80 cow and keeps the other for his own use. Now, let us see how the account will stand, in regard to the *profits* from these cows. The best cow produces 9 lbs. of butter a week, say from May 1st to December 1st—30½ weeks = 274½ lbs., at 30 cts., = \$82.35.

The other cow produces in the same time 122 lbs. of butter, at 30 cts., amounting to only \$36.60, which is \$45.75 profit less than the best cow affords.

It costs, in this case, the same to feed each cow, and it is safe to say, that the advantage in keeping good cows over poor ones is not improperly shown in the above statement. A farmer actually *throws away* from \$25 to \$40 *each season*, when he sells a first rate cow, and keeps a poor one in her place.

SELECTING COWS.



FIRST, I get a broadside view of the animal, at a distance of about two rods, as I have noticed for years that there was a great similarity in the general proportions of all first class milkers; being very small in girth just back of the

forward legs as compared with the girth just forward of their hips. I have never known a first-rate milker, of any breed, not thus proportioned; so that if this form is wanting in an animal I have recommended to me, I do not care to look at her more, unless I want a breeder for some other purpose than the dairy. For breeding oxen I should want a cow of reverse proportions, i. e., larger girth forward.

I next feel the size of the "milk veins," and trace them to their entrance into the chest, which, in superior cows, are large, admitting the ball of the largest finger; if divided, or subdivided, as is sometimes the case, I judge of the size of each orifice, as I care less for the size of the vein itself than the orifice. Next, I examine by sight and touch, the udder or bag, which must be capacious, in order to hold much milk, with teats wide apart and free from large sand warts or sores of any kind; I then inquire how long she goes dry before calving, as I don't want a family cow to give milk less than forty-six weeks out of every fifty-two; also as to the quality of the milk; and to close, I milk her with my own hands.

FARM STOCK.

THE raising and care of stock demands the attention of every farmer. The manner in which he performs this part of his labor, is a very true criterion by which to judge of his merits and success as a farmer. The man who keeps a lot of lean, hungry looking cattle, is not the man to stand high as a farmer, nor to find farming very profitable in the long run. Far too little attention is paid to the choice of stock. Very many farmers, because they can get a little more money from the butcher for a nice calf than for a common one, sell the best and raise the other. But this course, except for a very short time, is far from being profitable. It is a law of nature that "like produces like," and from this law there are few deviations. Now, the farmer who raises an inferior calf, not only makes sure of one inferior animal, but all the descendants of that animal will be a low grade. This is an item worthy of consideration. The difference in the value of a good and an inferior cow, for the purpose of raising stock, is very much greater than the difference in the price. Feeding is an important part of the care of stock. The best breeds of animals, unless well fed, will be of little profit. Many farmers seem

to think that the greater the number of cattle they can keep on a given quantity of hay, the more profitable it will be. But this is a mistake. The old maxim, "anything that is worth doing at all is worth doing well," is eminently true of feeding stock. It is cruel and unprofitable to keep an animal so short for food as to have it grow poor. Cruel, because nearly all the comfort and happiness of animals consist in gratifying the appetite. Unprofitable, because they are losing flesh, when by a more liberal feeding, they would be gaining in flesh and value. Some farmers sell their best hay and feed their poorest, and seem to think they are on the high road to wealth. They are on the road; but they are moving backwards. Good cattle can no more be raised on poor hay than a good house can be built with shaky boards. In either case there is an utter impossibility, because the materials used are not of the right description. Good breeds, good care, and last, but not least, good feed, are the three principal, essential elements of success in this department of farming.

JOHN E. REED.

South Amherst, Mass.

TRAINING SHEEP.

HERE is all the difference in the world in the way men handle sheep. Some sheep are never educated to the hand of the flockmaster, and when he desires to handle any particular animal, he rushes in amongst a bunch of sheep and makes a grab, with as little consideration as a dog would do in pursuit of mutton. No considerate shephard will ever catch a sheep by the wool, and the violent manner in which some people take a sheep by the leg, is not much better.

Every flockmaster who keeps good sheep should have them so well educated that they can be handled without their being frightened. We have seen a variety of ways of handling sheep well, one of the best of which is the method practiced by Edwin Hammond of Vermont. Mr. Hammond has in his sheep-fold a long, slender lath, tapering out quite thin, and has his sheep so well trained to understand his desire, that when he goes into the yard with the lath in his hand, and selects an animal for examination, he has only to reach out this scepter and pat the sheep on its foretop, when it stands perfectly still and allows him to put his two fingers under his chin, where

it rest its head in quiet until allowed to go. If the sheep is disposed to run from him, Mr. H. pats away upon its face until it shuts its eyes and becomes quiet. By the same gentle treatment, a sheep is laid upon its side, and will not attempt to rise while the scepter is laid over it. In holding a sheep standing, Mr. Hammond seldom does more than to place the two first fingers under his chin, elevating the nose to a level

with the eyes. If gently done, a sheep may be safely withdrawn from a huddle by the hind leg, but a better way is to walk into the crowd and back it out by the hands under the neck. When the sheep comes to understand that you do not intend to hurt them, they will soon be on good terms with their keeper, and no person should be allowed to go in among the flock who is not gentle in all his treatment of the sheep.

ENGINEERING DEPARTMENT

FARMERS' TOOLS.



GOOD mechanic keeps his tools where he can find any one he wants, without loss of time; but farmers—a great many at least—seem to act on the reverse of this principle. Hammers, saws, wrenches, hoes, axes, &c., are generally left where last used; and the result is, considerable time is wasted in finding them; and as we all know "time is money," it costs quite a sum, indirectly, for some farmers to find their tools when wanted for use.

But farmers appear to think that an axe, a couple of hoes, a spade, shovel, plow, harrow, and grindstone, are about all the implements they need. Or these tools, with an old waggon or two, are about sometimes all we find on farms.

That is a grave mistake. A farmer should have the principal tools that a joiner uses, with a drawing-knife and coopers' horse, and a light, dry room to keep them in, where he can do small repairs on rainy days.

Almost any farmer with common sense can repair gates, hang doors, and do other small jobs quite as well as a carpenter, if he has all the necessary tools, and has had some experience.

We recommend to farmers to procure the following as important necessaries on their farms:

A nail-box, with divisions for different sized nails and screws.

Two good heavy maul hammers, one small do., for brads and tacks, and a sledge hammer, which is very useful in many ways.

Two saws, one large the other small for fine work; augurs, brace and bits, gimblets, screw-driver, wrench, planes, chisels, a mallet, files, a rasp, saw-set, trowel, and all other tools that are often used on or about a farm.

Have a joiner's bench made, and placed before a window, in some out-building, over which place one or two shelves for some of the tools, with a rack to hold all the small ones, which should have a place and be kept there. "A place for everything, and everything in its place," pertains as much to the tools of farmers as to those of a watchmaker, or any other mechanic.

If all the losses that occur to farmers for the want of being prepared for all emergencies that arise on their farms, in which good tools are needed, could be estimated in dollars and cents, it is probable the sum would reach annually, in this country, to over a thousand millions of dollars.

WIRE FENCES.

WIRE fences in certain localities are preferable to those of wood, both from their cheaper construction (where lumber is scarce) and their requiring less labour to build and keep in repair, while if properly made they are as good, or a better safeguard against unruly stock than wooden fences.

In building a wire fence, it is necessary to have a large post well braced at each end, to withstand the strain when the wires are drawn stiff. These posts should be nine feet long, 15 inches or more across, set four feet in the ground, inclining slightly from each other, and the holes filled in with small stones. They should each be braced with two poles 10 or 12 feet long, and 8 inches across, the small end beveled, and placed in a notch cut near the top of the post, and the butts spread three feet apart, and planted firmly against a block placed below the ground 6 or 8 inches. Then dress the side of one post (opposite the braces) so as to make a flat surface 10 inches wide from top to bottom. Bore the holes for the wires

horizontally at a distance from each other as follows: The first 8 inches from the ground, the next 8 inches from the first, the next space 8 inches, the next 10 inches, and the next 11 inches. The small posts may be round, and set at equal distances of two rods. They may be fastened with small stones if convenient, as they are not so liable to heave out by frost, as when filled in with earth. The wires should be No. 6, annealed, and fastened to the posts by small hooks or staples, made for the purpose, not so closely, however, as to prevent the wire from moving freely when drawn. Pieces of wire may be spliced, by securing the ends in a pair of tongs, and twisting the end of each around the other. To draw the wires, secure one end to one large post, and the other pass through the holes bored in the other, and the wire-hole of the roller. The wire may then be wound upon the roller by a pair of bars, until it is of a proper tension. The roller for drawing is a "native" of New Jersey, and as it is not generally known, I will try and describe it as well as I can without diagrams. It is made of cast iron, 8 inches long and $2\frac{1}{2}$ inches in diameter; but four inches of the middle is but 2 inches in diameter, thus leaving a flange 2 inches in width at each end, and as the wire is wound around the middle in drawing, the friction all comes upon the end, which serves as a kind of journal. Through the small part, near one end, is a half inch hole, to hold the end of the wire; and through each flange is an inch hole (the two being at right angles) for a pair of bars to be entered while turning the roller, withdrawing one while winding with the other. The roller weighs about five pounds, which may be prevented from turning back and unwinding the wire, by putting a wooden pin 6 or 8 inches long in the bar-hole. An inch pin placed in the post, under each end of the roller, will keep it in its place while winding.

No. 6 wire weighs two pounds per rod. The hooks or staples, for securing the wires to the small posts, may be malleable or wrought iron. They can generally be procured at the hardware store.

AN EXCELLENT GATE.



AMONG a number of styles of fences and gates on exhibition at the New York State Fair, in September last, we were particularly pleased with a newly invented gate, of which we now propose to give our readers a very brief description.

The gate in question consists of an upper and lower bar, with pickets put on at right angles with the bars. The upper bar is considerably longer than the lower one, having on the projecting end of it a box which is filled with sand or gravel, to operate somewhat on the plan of the old-fashioned well sweeps, and the rough gates you sometimes see pivoted by means of a pin on the top of the post. This gate opens by virtue of the way in which the pickets are put on. They are fastened with screws, which, by means of boring and rimming the pickets, fit them very loosely, while they are tightly driven unto the bars. The gate is hung upon a three-quarter iron bolt, which goes through the top bar. An oak pin through the bottom works up and down in a slot. On lifting the free end of the gate, the pickets easily slide in the act of opening.

The pickets continue to close upon each other, somewhat after the manner of a lady's fan, until the gate attains the perpendicular, when the whole thing is tightly brought together.

The posts may be as usual of cedar or oak logs, the one on which the gate hangs being flattened to receive the outer plank. Or the post may have a four inch space cut in the top, and the slit may be formed by nailing strips on the inside of the post for the pin to work in; or the post may consist simply of two upright planks.

We consider this, on the whole, the best farm gate we know of. It is easily constructed, so much so that any farmer can make it for himself. It is light, and yet strong; properly put together, it is not liable to get out of order. It can never be left half open, and is not, therefore, liable to damage by the carelessness of teamsters. It must either be entirely shut or entirely open. The chronic difficulty with gates, viz: trouble with the hinges, is avoided on this principle. Finally, it is an excellent winter gate, as it can neither be blocked up, nor racked by attempts to draw it over an accumulation of ice and snow.

A CHEAP ICE HOUSE.



CORRESPONDENT of the New York Farmers' Club says:

I see in the papers a great many inquiries about the best method of making a small ice house. I want to give my experience for the benefit of the

thousands of small farmers who need plenty of ice, and are not aware how cheap a luxury it is. Several years ago I built me an ice house on the back end of my woodshed, 12 feet square on the one side, walls 15 inches thick and filled it with pine sawdust, a board floor with sawdust, a foot thick under it, and well underdrained; a floor overhead and filled in with sawdust between it and the roof; the door was double and filled in with sawdust. I congratulated myself on having got everything so snug and tight that no heat could get in, and expected my ice would last until the winter. I filled it with the finest ice; and to make the matter doubly sure I covered it with sawdust. It lasted until the middle of July, so that just when I needed it most it was gone. I was told it needed ventilation. I put in a tube four inches square and tried it another year; it kept scarce the same. I then tore out the floor overhead and left out a small window 15 inches by two feet; it then kept until September 1st.

A year ago I had my attention called to an ice house built by a farmer near me,

which was simply a bin made with rough pine boards. 16 feet square, and roofed over, leaving a large opening at the front and sides. He said his ice kept perfectly until the next winter. He put on a layer of sawdust about a foot thick on the ground and then stacked the ice snugly in the centre 18 or 20 inches from the walls, and then filled in with sawdust, and up over the top a foot or more thick. Last winter, before filling my ice house, I determined to try this method. I accordingly tore out the inside wall, and shoveled out the sawdust then filled by stacking it snugly in the centre 15 to 20 inches from the wall. This space I filled in with pine sawdust and covered the whole over the top a foot thick or more. I left out the window before mentioned, and took down my door and left it all open, so the sun can shine in there every day. Now for results. At the present time I have an abundance of ice, and the cakes seem to come out as square and perfect as when they went in, seemingly, nothing lacking except what is used out. I am satisfied how to build an ice house.

HORTICULTURAL DEPARTMENT.

EXTENSIVE VINEYARDS.

THE interest now awakened in vineyard culture on this side the Atlantic, is illustrated in one or two paragraphs from our last week's exchanges. One of these states that a company at Cooksville, Canada West, have now about forty acres under the grape, and expect to extend the area largely another season. They are just constructing a wine cellar, having "34 arched recesses, in two tiers, each recess to contain a hogshead of 1,000 gallons capacity. These 34 hogsheads, it is said, will be filled with the production of this season's fruit. We understand that another hogshead is in course of construction, which of itself is to contain 24,000 gallons."

Another statement in circulation is to the effect that a joint stock company, with a capital of a quarter of a million of dollars, has been formed in Wheeling, West Virginia, for the purpose of entering largely into the grape-growing business. "The land to be worked is on the Ohio side of the river, near Martinsville, and 50 acres of it are already under cultivation. It is designed to increase the size of the working land to 115 acres."

VISIT TO THE LAKE ERIE GRAPE ISLANDS THE DELAWARE GRAPE.

IT was my privilege to make a visit, during the last days of September, to the islands in Lake Erie, already become famous for the fine Catawba Grapes which are raised there. I made a short stay upon each of them, and examined the different vineyards, the mode of training the vines, and the several varieties of grapes in cultivation. I also went into some of the wine cellars, and witnessed the process of wine-making in some of its stages. It was a very interesting and instructive visit. There are more Catawba Grapes grown there than of any other kind, and they were selling readily at \$160 per ton, for the purpose of being made into wine. But the Delaware Grape seems to be fast growing in favour, and vineyards of this variety are being planted as rapidly as the vines can be raised. The Delaware Grapes had been all bought up when I was there, at twenty-five cents per pound, to be made into wine, and Delaware Wine of last year's vintage had all been sold at \$6 per gallon.

I made a careful examination of the vineyards of the Delaware Grape, for the

reason that this variety is perfectly hardy in our own climate, and ripens so early that it will perfect its crop every season. I felt that every Canadian had an interest in knowing whether this Grape would yield to him, in his more Northern home, returns as satisfactory as it afforded to these Islanders of Ohio, and the result of all my investigation and enquiry has fully satisfied me that we can, in this part of Canada at least, raise the Delaware in greater perfection, and of higher flavour, than any that I saw upon the Islands. It is true that at the time of my visit the best of the crop of Delawares had been gathered, but the condition of the remaining fruit and of the foliage of the vines told an unmistakable tale. If these conclusions be correct, what a field of enterprise and remunerative industry is opened to us? A vineyard of the Delaware grape in full bearing will easily yield three tons of grapes to the acre. An acre of land may be set down, say as worth one hundred dollars. Suppose that it costs one hundred and fifty dollars to get it planted with first class Delaware vines, and another hundred dollars to put up a suitable trellis, and fifty dollars a year for four years to cultivate it. This will make a total cost of five hundred and fifty dollars for the acre of vineyard. One crop of three tons at ten cents per pound will repay the entire outlay.

Such are my convictions on this subject that I intend to plant a vineyard of five acres next spring with Delaware vines, and should we live to see its first full crop, I will tell you just what it has cost, and what it yields.

FLOWERS IN THE WINDOW.

HERE is nothing more attractive to the eye of the outsider than the plants and flowers in the windows of houses during the season when garden culture is out of the question. Here every one, without regard to circumstances, may have a miniature green-house with all its luxuries and a few of its inconveniences. The expense is not worth mentioning, and the labor is a pleasure to all who love these most loveable beauties of nature. In many of the public schools of New England, the female teachers and larger scholars cultivate many flowers throughout the year, either in doors or out. So in numerous factories, it has become a usual sight to see at all times the hanging flower or fern vase, the pots on the window-sill, or in some little nook out of the way

of the busy factory girl's movement, carefully tended and universally prized during the hours of labor.

Mr. Buist, in his little manual, advises as follows for window culture :

"A copious supply of water, frequent sponging and syringing of the foliage, and judicious airing, will result in success; nearly all plants will grow in earth from the woods, or very rich sandy soil; they will even grow in sand if watered freely with manure water. The following plants are adapted for windows, and will give a succession of bloom all winter: Azalea, Begonia, Cactus, Calla, Cupheas, Camellia, Daphne, Dracena, Ferra, Fuchsia, (kept wet,) Geranium, Hoya, Jasuime, Justicia, Netrosideros, Myrtle, Oxalis, (with sun,) Olea, Oleander, Passiflora, Primula. These, with Bengal and Tea Roses, will make up an ample variety for three or four windows, and afford bloom nearly the whole season.

FLOWERS FOR PEREUME.

ACCORDING to the New York *Tribune*, the quantity of flowers manufactured into perfumes in the town of Cannes alone, amounts to the following quantities, which which we give in tons instead of pounds:—Orange blossoms, 700 tons; roses, 265 tons; jasmine, 50 tons; violets, 37 tons; acacia, 22 tons; geranium, 15 tons; tuberose, 12 tons; jonquil, 2 tons; amounting in all to over 1100 tons of flowers, and being sufficient, if piled on waggons like loads of hay, to form a close procession more than three miles long, or sufficient to fill twenty good sized barns. According to the same article, the rose is the most productive of the petals, the plants set about three feet apart yielding two and a half tons to the acre,—which seems to be rather a large story, but may possibly be true if the fresh or undried petals are taken; the other plants do not yield near so much, but being higher priced are also profitable, the returns per acre varying from one to two hundred dollars.

TO CURE WOUNDS UPON TREES

HAVE wrought almost miracles of restitution in badly wounded trees (horse-gnawing, rash pruning, scraping with waggon hub, &c.,) both when the wounds were fresh, and when they were so old that the wood was rotting and the tree apparently dying, by simply covering the wound with rosin tempered with tallow and applied warm.

DOMESTIC ECONOMY.

DAIRY STATISTICS, &c.



R. WILLARD, in his "Notes from the Dairy Region," in the last *Utica Herald*, gives the following notes about the cheese factory of Mr. Weeks, in Verona, Oneida county :

Just off the main road and about a quarter of a mile from the village, is situated the cheese factory of G. B. Weeks, which receives the milk from 600 cows. The dry-house is a two storied structure 100 feet by 26 feet, while the vat and press room is in a separate building, the former being 26 feet by 36 feet, and the latter 13 by 41 feet. Everything about the premises has a neat and clean appearance, showing systematic and thorough management ; this together with the nice quality "of goods" in the dry-house places it at once among the first-class factories. Only 25 hogs are kept at this establishment, and they receive a daily allowance of corn with their whey. The balance of whey is thrown away. We looked over the cheese in the dry-house, and tested a number with the trier. They bored well, and the flavor was good. Mr. Weeks, the gentlemanly proprietor, opened his books and gave us every facility for obtaining correct information. Statistics obtained in this way have some value to the public. At some of the factories we notice a disposition to deal somewhat in guess work. This may be a very convenient way of making things look well on paper, but unfortunately the public is suspicious, and will not credit everything.

The number of wine gallons of milk received on June 13th, was 1,481, which was made up into eleven cheeses, pressed in 20 inch hoops, 9½ inches high, and weighing, in gross, 1,274 pounds.

Mr. Weeks informed us that dairies delivering milk at this factory vary in size from 5 to 30 cows, and that the average quantity of milk per day for each cow is 2½ gallons. In order to show what cows are doing in this section, the quantity of milk per day from several dairies is given. Wilson and Bowers, 28 cows, 90 galls ; L. Wilson, 28 cows, 104½ galls ; W. N. Peckham, 18 cows, 67 galls ; Geo. Benedict, 15 cows, 53 galls ; O. W. Blair, 10 cows, 34 galls.

The whole number of cheese made has been 438, and 70 sold at 16 6-10 cents per pound. The charge for manufacturing is on a sliding scale, and as follows ; he is insured 1¼ cent per pound, in any event, and if cheese sells above 12 cents, 1⅜ cents, and if above 17 cents, 1½ cents, the patrons furnishing everything. The whey is allowed to get a little acid before the curd is removed from the vats.

COOKING AS A FINE ART.

Monsieur Blot's Academy.—Interior Arrangements and Process of the Cuisine.



S James Watt, canny Scot, when of tender years, sat in the chimney corner, and, resting his scientific elbows on his philosophic knees, pondered the problem of steam ; so our excellent Monsieur Blot, best of cooks, and politest of Gauls, immaturely gazed on the charcoal braizer, and, in imagination, invented soups and improvised entrees. This bit of history was revealed to us in a cream cake of Monsieur, as a fish's scale unfolds to Agassiz the career and possibilities of its finny possessor.

Entering the cooking academy we are met on the threshold by our guide, philosopher, and friend, who informs us, to our dismay, that to-day celebrates not the opening, but more properly the re-opening of the school, and that the dozen nymphs and goddesses assembled on the benches constitute a portion of his advanced class. Nevertheless, neophyte as we are, we are most welcome. He protecting Æneas, will take us by the hand, while we, the young Irelus, follow with unequal steps, allow him the pleasure to offer us pencil and paper to set down his instructions.

Abashed to find our ignorant self in the presence of twelve accomplished cooks, we accept the paper, and retire into obscurity behind it. Emerging by degrees as the severe attention of the twelve becomes directed to business of the hour, we examine curiously, yet reverently, this temple of Hygeia, goddess of Health.

It is a large room, well lighted, and furnished with many benches, a table or two, a safe for food, and the black uncouthly range—the sooty, conquered Caliban, who does, without murmuring, the will of this

Prospero. The bare wall and uncovered floor shine with cleanliness; the three windows are crystal clear; at a long table between the range and the benches stands a slender Frank, white-capped, white-jacketed, white-aproned, and girded about with clean napkins, who might be a poet, but who is the dexterous pair of hands which the clever brain of Monsieur Blot animates.

Against the wall, and on a side table, and under that table and about the range, but nowhere confusedly, are whole families of saucepans, tribes of pots, nations of pans and races of porcelain kettles, sieves from infancy to well-developed maturity, boxes of all ages, spoons, pewter, wooden, plated, whose, "infinite variety" rivals Cleopatra's, and a collection of knives, large and small, pointed and blunt, but all of a glittering keenness. The boxes clearly labelled, contain spices, sugar salt, rice and other appliances. Amidst the orderly disorder stands a crystal vase filled with gorgeous autumn flowers.

A black-board between the windows announces the

Bill of Fare.

Potage puree a la reine,
 Fillet of beef, larded with tomato sauce,
 Cauliflowers au gratin,
 Sea bass, baked,
 Chicken santi a la Marengo,
 Stuffed tomatoes,
 Choux a la creme.

The hour strikes. The brain nods intelligence to the hands which take up their labor. The Professor begins his instructions. To these votaries he has already explained the theory of the art. There remains to be disclosed to them only the fine practices—to be exhibited the delicate results of his process, which, he is certain, will reward their most serious attention.

Twelve note books appear, and twelve pencils hover expectantly over the paper.

The soup, we discover, already exists in the embryo, for a French artist never allows his soup kettle to leave the range, where it gently and contentedly simmers, ever ready to receive the awkward knuckles which must not disfigure the pretty side-dish, the marrowy bone whose unsightliness banishes its succulence from the platter, the trimmings of the shapely joint, the skimmings of the turbulent pot whence savory chickens or a tender leg of veal send forth appetizing prophecies.

Soup being incipient then, we are requested to consider the fillet, which must

be treated first, as requiring longest baking. Upon the fillet we concentrate our gaze, and we learn that it weighs five pounds, that it is carefully cut and trimmed, and, altogether, a credit to the bovine originator. Baking, Monsieur explains, is at best an ill substitute for roasting, the juices are dried, the meat is toughened. Nevertheless, he flatters himself, when the joint is dressed, and cooked as he advises, the injuries which the oven inflicts are in a measure overborne, and the wronged and royal beef "shall hae his ain again."

Pervaded with sympathy for the beef, and mentally heaping objections on the oven, we hang on the next words of the philanthropic Professor. The assistant under magnetic control, no words being spoken, slices a carrot, reduces an onion to impalpable grains of powder, adds salt and pepper, lays the larded beef in the pan upon this vegetable basis, pours a ladleful of broth over it, and sets it over the fire where the liquid boils furiously, and the beef smokes. Monsieur explains that this sudden application of extreme heat slightly incrusts the meat, keeps the juices pent within, and makes it therefore nutritious. While basting it frequently with the broth keeps the surface tender.

We turn now to the tomatoes. One of the flashing knives describes an equatorial circle round eight polished, scarlet spheres, and they are hemispheres. The acidulous contents being scooped from the ruddy bowls into a shining saucepan, bread crumbs—which, in this skilful *menage*, put on a hundred dainty and toothsome disguises—the most delicate spices and a suspicion of onions rush together to form the stuffing which your newborn confidence in Monsieur Blot assures you will be excellent. And now it is time to turn the fillet still bubbling on the range.

Soup, beef, tomatoes being all under way, let us examine the cauliflower. Potatoes, explains Monsieur, being very expensive, we do not to-day cook them. American housewives cherish the potato, but at times it is extravagant, and it is never indispensable. These tomatoes with their stuffing shall be found very good. The cauliflower, refined by our process of cooking, shall not remind you of its coarse family, the cabbage, and really, in this dinner, so admirable there is no place for the potato. A contempt for that esculent forthwith possesses us, and we sigh over wasted postal currency ignorantly spent therefor.

Well then, cauliflower is boiled with a drop of milk in the water to give it a whiteness, and, being boiled, a delicious dressing is poured around it—the basis of every sauce and every gravy being drawn from the inexhaustible and all pervading soup-kettle. Then a pale island in a sea of sauce, whose uneven summits are white with the inevitable bread crumbs, it is lost in the yawning oven. Meanwhile, the fillet is the third time turned, and if we had not seen it quietly inurned in the oven, we could aver that it was turning on a spit, so positively, through its savory fumes, it declares itself a roast; and the tomato-juice, being quite done now, is whisked from the range, returned, apotheosized, to its native sells, bread-crumbs again, oven again, and we wait while hope becomes fruition.

Not idly though, for in some imperceptible atom of time between the ripe state of two dishes the nimble cook has found space to make the paste for his cream cakes. A little flower, a little butter, a little water being gathered to their final saucepan, the master subdues them with a wooden spoon and the power of a giant. Eggs add themselves, apparently of their own volition, and the delicate compound is ready in the twinkling of an eye.

While the paste cools, the patient has his turn. Another knife, slender as the blades of Damascus, meanders down his right side, and makes sharp verticle incisions on the left, that the dressing may penetrate and flavor the fish.

Then its sauce—broth, of course—with magical spicery, and the plumb base follows the fillet, and becomes a memory.

And now the chicken *santi*. Two small fowls are dissected in a breath. The fine plump pieces for the waiting saucepan, the scraggy bits for the expectant soup kettle. *Santi*, explains Sir Oracle, is not *fry*. Frying can be made palatable, and not unhealthy; but frying as practised in most American kitchens, disengages the fatty acids, toughens the meats, and produces a disgusting and indigestible result. Look, now, the chicken is placed in this pan already heated, an atom of butter is added, that the bits may not burn to the dish, and the well meaning fowl develops his tenderest possibilities. Beefsteak cooked in this way will be found excellent.

While the chicken simmers the cream cakes are baking, the tomato sauce is prepared. Then the lid of the soup kettle is lifted, and out comes a venerable fowl

whose presence we had not suspected. This chicken, explains the tutor, was old and tough, and therefore cheaper. But by long and skilful boiling, being at first only allowed to simmer, that the juices might be given out, it will be found entirely tender. The soup is already flavored; we will take a bit of the white meat, which, chopped very fine, shall give richness to the broth, and to-morrow the contingent remainder of the chicken will re-appear in a delicious *salmi*, called of the vulgar *hash*. And now, continues Monsieur, we have but to take up this little dinner, so easily prepared, and taste if it be not excellent.

Dinner ready, we inaudibly murmur in amazement! Why, Jean Cook has but frolicked with the saucepans, and coquetted with the oven, and played fantastic tricks with the meat and vegetables. At home, dinner is the tyrannical, the overshadowing event of the day, and here it is a charming pastime. This is not cooking, this is a bewitching chemistry. This is the engaging sport of two idle hours. And the dishes are not real, but odorous tricks of fancy.

Nevertheless they *are* real, and most toothsome. For being delicately served in their order, we taste, and taste again. No watery soup, no stringy beef, no tasteless fish, no ill-done vegetables, no vulgar spices and over-flavored compounds. But Jove and his court might sit at this board, and count the Olympian house-keeping a coarse mistake.

And yet these materials are daily in our kitchens; daily pass under the eye of mistress and hand of cook, and have no such admirable accounts to render of themselves, because neither mistress nor cook knows how to evoke the latent capacities of each. And then the fine economy of this *menage*! A grain of rice, superfluous here, fills its exact place there; a bone impertinent in this dish, is a necessity in that; a scrap of stale bread is translated into celestial uses; a bit of suet rising on the kettle must be kept as religiously as the Decalogue. And the fire that bakes must stew, and not only stew, but broil; and not content with broiling, be forced to boil; and not yet fulfilling its possibilities, must steam as well, and must heat the flat-irons also. Neither may the cook wait idly for either stew-pan to bubble or further pot to boil. The nimble hands of this wise alchemist tend crucible and alembic and retort, each in its turn, and just at the moment the fine gold of this

most excellent dinner is fused in each. Bad food is poisoning us as a nation. We ourself, who have bought seventeen cookery books in seven years, walk from dyspeptic bread and leathery steak to our desk and our duty. American wives cannot make calls, and entertain visitors, and retain the three languages they learned at school, and keep up their music, and look after the babies, and do the family sewing, and read the papers daily, and cook beside; simply because there are but twenty-four hours in the day, and no elastic management will stretch them into twenty-eight or sixty-eight, which would not be too many with the drafts they are expected to honor. The legs of the cooking-stove have crushed out fairer lives and gayer hopes than the wheels of Juggernaut. Our matrons, who should be be smiling, celestial, rosy-red, are weary and pallid, and find housekeeping a misery and a failure. We do not exhort them to labor one instant more. But their quick brains and clear executive power are quite adequate to the ordering of a well regulated kitchen were a few hints given them. All the boys in Scotland saw the tea-kettle boil, but only Watt condensed the vapor into a steam engine from which a hundred thousand mechanics caught hints and earned their bread. Only Monsieur Blot finds the kitchen an inspiration, and the flour barrel an unpublished poem. He sighs that the gods have not made it poetical as well—but he *can* appeal to our harder natures, and teach us to reduce our tyrants to vassalage, and force obedient and ready service from them.

Dear Angelina, go to No. 896 Broadway, and exchange \$10 for wisdom wiser than Solon's which shall more adorn you than the *point applique* collar which you resign; which shall more enhance your rich complexion than the pretty veil for which you sigh. You and Edwin shall no longer board, but have a shining home, and a table so well ordered that he may impetuously invite to dinner his cousin, the Hon. Senator from New Mexico, suddenly arrived in town, and raise no blush upon your cheek, and no agitation in your tranquil bosom.

"Ah," but you say, while your eyes brighten at this charming picture, "if I knew more than Brillat Savarin, and had edited the *Almanach Gastronomique* like Monsieur Blot, could I hope to make my exiled Bridget comprehend my fine instructions? And I must have that Island wanderer or nobody." Angelina,

"There's the rub!
* * * There's the respect
That makes calamity of so long life.

We never pass a sloop-shop where haggard women come bearing huge bales of underpaid sewing; we do not see the pinched toy-workers and doll's dressmakers; we never observe the little stores whose windows declare "ladies' linen made here;" we do not note pallid lines of weary girls, pining for fresh air behind crowded counters, without wishing that they would help us at our need—they or their sisters in lot—and cook our abundant dinners for excellent pay, rather than buy their own meager ones for half their wages. They *will* do it exactly when, in addition to the money, we offer them that absolute and hearty respect which *ability* demands—whether it be ability to cook or to build the Vatican.

Till that day, patient Angelina, try to graft Yankee ideas on a Celtic stem. One in a hundred will flourish. Meanwhile, go you to Monsieur Blot, and know that for every lesson you add something to the "daily beauty" of your life. For right housekeeping ceases to be a paltry thing when you remember that without it no perfect home can be; and cooking is no longer a common drudgery when you think that its fine chemistry keeps Edwin in the body, that he may the longer adore you. So persevere, even if you come from the Cooking Academy day after day with Portia's half sad, half merry on your lips. "If to do were as easy to know what were good to be done, chapels had been churches, and poor men's cottages prince's palaces."—*N. Y. Tribune.*

HOW TO ROAST A GOOSE.

GEESE seem to bear the same relation to poultry that pork does to the other domestic quadrupeds; that is the flesh of goose is not suitable for, or agreeable to the very delicate in constitution. One reason doubtless, is that it is the fashion to bring it to the table very rare done; a detestable mode!

Take a young goose, pick, singe and clean well. Make the stuffing with two ounces of onions (about four common sized) and one ounce of green sage chopped very fine; then add a large coffee cup of little bread crumbs, and the same of mashed potatoes; a little pepper and salt, a bit of butter as big as a walnut, the yoke of an egg or two; mix these well together and stuff the goose. Do not fill it entirely;

the stuffing requires room to swell. Spit it, tie the spit at both ends to prevent it swinging round, and to prevent the stuffing from coming out.—The fire must be brisk. Baste it with salt and water at first, then with its own dripping. It will take two hours or more to roast thoroughly. A green goose, that is, one under four months old, is seasoned with pepper and

salt, instead of sage and onions. It will roast in an hour.

Sauce for a Roasted Goose.

Put into a saucpan a tablespoonful of made mustard, half a tablespoonful of cayenne pepper, a glass of port wine, and a gill of gravy; mix and warm, and pour it through a slit in the apron into the body of the goose, just before serving.

COMMERCIAL DEPARTMENT.

FACTS ABOUT PEAT AS AN ARTICLE OF FUEL.

THIS is the title of a well-printed volume, in 120 pages, in paper covers. It gives an account of the origin and composition of peat, and the various localities in which it is found in the greatest quantity, in other countries as well as in our own. With regard to Canadian deposits, the writer remarks:—“Numerous and extensive deposits of peat are met with in various parts of Eastern Canada, chiefly confined to the plains of the St. Lawrence and its tributaries; and two tracts in the County of Gloucester each contain 2,500 acres.” The ordinary methods and difficulties of the preparation of peat for fuel are carefully described; and its adaptability to the requirements of the arts and manufactures, as well as its availability for domestic use, are well stated by the author. We gather from an appendix that the publishers are Agents of the “American Peat Company” in process of formation. “Their various inventions are secured by letters patent, and the whole reduced to a very simple process, which can be seen in operation at their works at Lexington, Mass.” The proposed capital of the Company is \$250,000; and “their purpose is to encourage the manufacture of peat wherever it is found, and to this end they furnish machinery and rights under their patents, at moderate rates.”

THE LADY'S FRIEND.

THE publishers of this beautiful magazine have issued a magnificent number for January. The leading steel engraving, “The Forest Gleaner,” is a perfect gem of beauty. We do not know where the publishers of the Lady's Friend get such beautiful designs for their engravings. Then we have a gorgeous colored plate, “The Hand Banner Screen in Chenille on Velvet,” which the

ladies say is magnificent. The large double colored Steel Fashion Plate is as usual superb—we had almost said unequalled. Another engraving, called “Stephen Wharton's Will,” which illustrates a fine story, is very suggestive. Then we have a beautiful plate of children skating, intended to illustrate the winter styles of children's clothing; with numerous other plates illustrating Hair Nets, Winter Dresses, Borders for Jackets, various new styles of Bonnets, Winter Casques, Paletots, Jackets, Embroidery, Chemises Night Dress, Ancient Head-Dresses, Patchwork, &c. &c.

The literary matter is excellent. Among the articles, we note “Stephen Wharton's Will,” “Mrs. Trunk,” by Frances Lee; “Paul's Story, or French Lessons;” “Clarice,” by August Bell; The Two “Nightingales,” “Stories of our Village,” by Beatrice Colonna; “In Illness,” by Florence Percy; “Rachel Dana's Legacy,” by H. A. Heydon; “Arthur's Wife,” “Loving Mary,” Editor's Department, The Fashions, Houseeld Receipts, &c.

Price \$50 a year; 2 copies \$4.00; 8 copies (and one gratis) \$16. Now is the time to get up clubs for 1856. Specimen number for this purpose will be sent for 15 cents. *Wheeler & Wilson's celebrated Sewing Machines are furnished as Premiums in certain cases.* The Prospectus of this magazine for next year embodies a splendid list of contributors.

Address Deacon & Paterson, 319 Walnut Street, Philadelphia.

MONTREAL MARKETS.

The past week, business dull both in the wholesale and retail markets. The attendance at the latter, owing to the severity of the weather, was small, and not much produce brought in; very few buyers, except traders who purchase poultry for the American market. On the Corn Exchange the demand for Flour was inactive, and sales limited to parcels of Strong Superfine from Canada Wheat. Superior Extra selling at \$7.20 and \$7.30.

Statement of Flour Inspected for the week ending

| | | |
|----------------------|-------|--------|
| Jan. 8, 1865:— | | Barrel |
| Superior Extra..... | | 0 |
| Extra Superfine..... | | 0 |
| Fancy..... | 108 | |
| Superfine..... | 476 | |
| Do. No. 2..... | 218 | |
| Fine..... | 315 | |
| Middlings..... | 69 | |
| Peckards..... | 0 | |
| Sour..... | 0 | |
| Rejected..... | 1 | |
| Rye..... | 0 | |
| Total..... | 1,187 | |

ASHES INSPECTION OFFICE.

| | | | |
|---------------------------------------|-------|------|--------|
| MONTREAL, Jan. 8, 1865. | | Pots | Pears. |
| In Store per last Statement..... | 2,410 | 1008 | |
| Received since..... | 578 | 175 | |
| | 2,988 | 1193 | |
| Delivered since..... | 130 | 222 | |
| In Store, Jan. 6, 1865, at 6 p.m..... | 2,858 | 971 | |

Inspection of Leather for week ending Jan. 6, 1865:—

| | |
|------------------|------|
| Sides No. 1..... | 2319 |
| Do. No. 2..... | 443 |
| Do No. 3..... | 16 |
| Total..... | 2768 |

TEAS—

| | | | | |
|-------------------------------|-------|---|------|--------------------------------|
| GENUINE—Imperial..... per lb. | 0 55 | a | 0 85 | } 10 per ct. in cts. specific. |
| Gunpowder..... | 0 65 | a | 0 95 | |
| Hyson, Old..... | 0 60 | a | 0 80 | |
| Hyson, Young..... | 0 40 | a | 0 95 | |
| Twankay..... | 0 85 | a | 0 50 | |
| Hyson Twankay..... | 0 85 | a | 0 50 | |
| Congou..... | 0 35 | a | 0 75 | |
| Souchong..... | 0 35 | a | 1 00 | |
| Oolong..... | 0 40 | a | 0 65 | |
| Japan Uncolored..... | 0 55 | a | 0 75 | |
| CANTONS—Japan Colored..... | 0 47½ | a | 0 80 | |
| Gunpowder..... | 0 80 | a | 0 50 | |
| Hyson Skin..... | 0 18 | a | 0 25 | |
| Young Hyson..... | 0 20 | a | 0 35 | |

TOBACCO—

| | | | | |
|--------------------------------|-------|---|-------|---------|
| Manufactured—lbs & ¼ lbs..... | 0 27½ | a | 0 35 | } 30 p |
| Do. —5's & 10's..... | 0 24 | a | 0 27½ | |
| Upper Canada Leaf..... per lb. | 0 04½ | a | 0 07 | } Free. |
| United States Leaf..... " | 0 07½ | a | 6 20 | |

VINEGAR—

| | | | |
|------------------------|-------|---|------|
| Canadian..... per gal. | 0 27 | a | 0 30 |
| Bordeaux..... | 0 37½ | a | 0 40 |

CANADA SUGAR REFINERY PRICES—

| | | | |
|---|-----|---|------|
| Loaves, in tins 400 lbs, per lb..... | 15½ | a | 0 00 |
| Dry Crushed, in brls 160 lbs..... | 13½ | a | 0 00 |
| Ground, for table use in brls 200 lbs | 10½ | a | 0 00 |
| Extra Ground, for confectionery, in brls 200 lbs..... | 14½ | a | 0 00 |
| Crushed A or White Bastard, in brls 250 lbs..... | 12 | a | 12½ |
| Yellow Refined, No. 3..... | 00 | a | 10½ |
| Standard Syrup..... | 90 | a | 54 |
| Golden..... | 00 | a | 58 |

LIFE ASSURANCE.

ESTABLISHED 1825.

SCOTTISH PROVINCIAL ASSURANCE COMPANY,

INCORPORATED BY ACT OF PARLIAMENT.

CAPITAL, - - - ONE MILLION STERLING.

Invested in Canada \$500,000.

CANADA HEAD OFFICE, MONTREAL.

DIRECTORS:

Honorable JOHN YOUNG, Chairman.

HUGH TAYLOR, Esq., Advocate.

WILLIAM SACHE, Esq., Banker.

Hon. CHAS. WILSON, M.L.C.

JACKSON RAE, Esq., Banker.

Secretary,—A. DAVIDSON PARKER.

WITH a view to obviate the objection urged to the system of Half-Credit Premiums on Life Policies—that thereby an accumulating debt arising from arrears of premium and interest is incurred—the Directors of the Scottish Provincial Assurance Company have adopted, as a substitute to that system, a *Reduced Table of Rates*, whereby the full sum in Policy will be payable at death of Assured, free of all debt, either from arrears of premium or interest.

The following are the Annual Rates, under this Table, for Assurance of £100 Stg. (\$486.67):

| Age next Birth-day. | First Five Years. | Remainder of Life. | Age next Birth-day. | First Five Years. | Remainder of Life. | Age next Birth-day. | First Five Years. | Remainder of Life. |
|---------------------|-------------------|--------------------|---------------------|-------------------|--------------------|---------------------|-------------------|--------------------|
| 20 | \$ 4 60 | \$ 8 80 | 35 | \$ 7 10 | \$ 13 58 | 43 | \$ 9 21 | \$ 17 38 |
| 25 | \$ 5 29 | \$ 10 14 | 36 | \$ 7 32 | \$ 14 03 | 44 | \$ 9 53 | \$ 18 01 |
| 29 | \$ 5 96 | \$ 11 44 | 37 | \$ 7 57 | \$ 14 48 | 45 | \$ 9 85 | \$ 18 69 |
| 30 | \$ 6 13 | \$ 11 76 | 38 | \$ 7 83 | \$ 14 92 | 46 | \$ 10 20 | \$ 19 57 |
| 31 | \$ 6 31 | \$ 12 08 | 39 | \$ 8 09 | \$ 15 41 | 47 | \$ 10 60 | \$ 20 31 |
| 32 | \$ 6 49 | \$ 12 41 | 40 | \$ 8 38 | \$ 15 90 | 48 | \$ 11 03 | \$ 21 17 |
| 33 | \$ 6 67 | \$ 12 77 | 41 | \$ 8 64 | \$ 16 36 | 49 | \$ 11 54 | \$ 22 08 |
| 34 | \$ 6 88 | \$ 13 18 | 42 | \$ 8 92 | \$ 16 87 | 50 | \$ 12 08 | \$ 23 16 |

EXAMPLE.—A person aged 30 may assure £100 at his death, by an Annual Premium of £1 5s. 2d. for the first five years, and £2 8s. 4d. for the remainder of life, without any debt accruing from unpaid Premiums being accumulated against the Policy.

ANDRE LEROY'S NURSERIES AT ANGERS, FRANCE.

The proprietor of these Nurseries, the most extensive in the world, has the honor to inform his numerous friends and the public, that his new CATALOGUE of fruit and ornamental trees, shrubs, roses, seedlings, fruit stocks, &c., for the present season is now ready, and at their disposal. Apply as before to BRUGUIERE & THIBAUD, 51 Cedar Street, New York.