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AGRICULTURAL REVIEW.

AUGUST.

CONTENTS:—Agricultural Review—Official Department.—Annual meeting of the Lower Canada Agricultural Association—The show grounds—Extract from the Agricultural Act—Provincial and County Exhibition in September and October next.—**Editorial Department.**—The Montreal Provincial Agricultural and Industrial Exhibition—The Upper Canada Exhibition—What will be the result of the coming contest—Programme of the week—Provincial Rifle match—Regatta—General Review of the Volunteer Force—The Governor General and Members of the Legislature—Delegates to the annual meeting of the Lower Canada Association to choose the place of the next Provincial Exhibition—Use of Fruits and Vegetables—Great age of trees—When to sell wool—Wire worms.—**Farm Operations.**—Destroy thistles—Draining swamps—The compost heap—Saving winter Rye and Wheat Pastures—Fattening hogs The Kitchen garden—Fruit garden and orchard—Flower garden—Hot house Green-house—**Engineering Department.**—An out-door cellar—Mortar for building—Wire fence—The best way to build a house—Carpenter's specification, stones, timber, partitions, windows, roof, cornice, siding-floors, base-doors—**Horticultural Department.**—A Fruit Orchard—High and Low trees—Walks and talks in the garden—Thumb and finger pruning—Carnations—**Domestic Economy.**—Sweeping carpets—How to preserve eggs—Scientific mode of boiling meat—Working butter—Churns, and working them.



PROVINCIAL EXHIBITION.

Provincial Exhibition...Montreal,	Sept. 15-16-17-18
Provincial Exhibition...Kingston,	Sept. 23-24-25
St. John.....St. John,	Sept. 24
Bonaventure No. 2.....Maria,	Oct. 7
“ No. 2.....Mann,	Oct. 14
“ No. 2.....Carleton,	Feb. 16
“ No. 2.....Cross Point,	Feb. 17

LOWER CANADA AGRICULTURAL ASSOCIATION.

A meeting of the directors of the Lower Canada Agricultural Association will take place at Montreal, on the Exhibition Grounds, on Friday the 18th September at 9 A. M. to choose the place of the next provincial exhibition.

The Secretary, G. I. ECLERE.

EXTRACT OF THE AGRICULTURAL ACT.

Sec. 35.—The members of the Board of Agriculture and of the Board of Arts and Manufactures, the Presidents and Vice-Presidents of county societies and of all Horticultural societies, (or any two members whom a county or Horticultural society may have appointed directors instead of its president and vice-president,) shall be the directors of the Agricultural Association.

Sec. 37.—The said directors shall hold an annual meeting during the week of the Provincial Exhibition, and may at such meeting elect a president and vice-presidents, and appoint the place for holding the next exhibition of the association, and may appoint a local committee at the place where such exhibition is appointed to be held, and prescribe the powers and duties of the said committee.

EDITORIAL DEPARTMENT.

THE MONTREAL PROVINCIAL EXHIBITION.

Every preparation is now being made to secure the greatest possible success to our Provincial Exhibition in Montreal, on the 15th, 16th, 17th, and 18th of September next. The Industrial Palace is about to be fitted up in the best style, and applications for space and machinery are already received. Indeed those exhibitors are the wisest who set at work at once, preparing for the contest about to take place between the manufacturers of both sections of the province. A great deal has been said and written in behalf of the decided superiority of the upper province in every department of our Provincial Exhibitions. Now we feel quite confident in the coming result; no doubt Upper Canada is a wealthy and growing province, and we are proud of their success as a manufacturing and agricultural community; but we pretend this much that they cannot come up to the Montreal manufacturers, and as to farming we boast of having enough improved stock to divide with them the first

prizes in every section open to competition. We are most happy to inform our readers that Upper Canada breeders are coming strong to Montreal, and that we will at last have an excellent occasion of judging of the superiority of either section in every class. We hope to see our most renowned farmers come in the field from every part. The Eastern Townships must come forward with their unrivalled strings of ten yoke of oxen, and show the numerous visitors, expected on the occasion, what excellent cattle are raised for the home market. Some of our breeders whom we have met lately are already prepared, and look forward with the greatest confidence to the ultimate result.

Again, in the Agricultural productions, green crops, and fruit, we will stand a fair trial. Probably for winter wheat, Upper Canada will take the prize; but for every other crop we have the greatest expectations, especially for root crops and fruit.

It is expected that every farmer will make

it a duty to be present on the show grounds to judge for himself of every thing which will be there exhibited for his instruction. Why should we not have as much interest in these great Agricultural fairs, as the Upper Canada farmers, who rush by thousands at the entrance gates on every exhibition day. Every inducement will be offered to visitors. The railway and steamboat companies have agreed to charge half fares. A general review of our volunteers will take place on the occasion, as well as a provincial rifle match. A balloon ascension and a regatta are contemplated, besides evening entertainments. The presence of His Excellency the governor general, and of the members of both branches of the legislature, will add still a greater eclat to the greatest provincial exhibition which has as yet taken place in Montreal.

We would advise every county society to name a commission among its board of directors, with instructions to carefully examine every department of the exhibition and draw a detailed report on every improvement, with suggestions for local application. Thus the whole country would benefit greatly by the very large amount of information to be gathered on the show grounds. Each society must be careful to send two delegates to the annual meeting of the Directors of the Association, which is to take place on the show grounds, to choose the place of the next Provincial Exhibition.

USE OF FRUITS AND VEGETABLES.

Prof. Loomis, in his Essay on Food in the last Patent Office Report, thus alludes to the difference in the healthfulness of fruits and vegetables as gathered and used by farmers and those so frequently used in cities.

Here lies the whole trouble: the vegetables of the city are not the vegetables of the country. The latter are usually gathered and eaten at the time of their perfection, the former before or after; in either of which cases their chemical constitution, as we have seen, is not that of the ripened fruit: the one is digestible, nutritious and cooling; the other either acrid and irritating, or indigestible and poisonous.

These chemical facts fully explain all the results attendant upon eating fruit and vegetables. When eaten fresh gathered in the country, they fully answer the character we have assigned them, as being the most healthful and beneficial of summer food; in the city, after leagues of transportation under a burning sun, and hours of storage in addition, they are well adapted to justify the common suspicion as to their sanitary qualities.

The countryman, as he gathers the full grown and luscious products of his own fields, may know he is receiving, for himself and those he provides for, gifts from the goddess of health. The citizen, as he returns from the market, may well reflect whether the goddess of health or traffic presides in that mart.

Though the solution of the whole case is so simple, the remedy appears far less so.

It is difficult to get sufficient supplies of proper vegetable food for a densely populated city;

so difficult, in fact, that we shall do a better service by indicating what is our best means of meeting the case as it stands, than of indicating its remedy.

1. It is better to do without vegetables altogether, than to use them in any other than their primo condition.

2. No intelligent provider for a household ought ever to bring into his home, fruits, berries or vegetables, green, unripe, over-ripe, wilted, or decayed.

3. Produce purchased in market, because it is cheap or under price, is culpable economy; it is paying half price for what is not only worthless, but worse.

4. Salads, lettuce, kale, cucumbers, peas, and green corn, wilt under any circumstances in a few hours, and should therefore be eaten the same day they are gathered. Peas should be picked, shelled, and cooked immediately.

5. Berries, melons, tomatoes, and all similar juicy fruits, having but a brief interim between the unripe and decaying condition, are always just objects of suspicion and intelligent examination.

GREAT AGE OF TREES.

There is "a glory in trees" as they lift their tall branches on high, giving shelter to the merry squirrel or the singing bird in summer; or when forming Eolian lyres in winter as the winds sing in their leafless boughs. There are many trees which have become sacred by the endearing associations of family scenes. Generation after generation connected with the old homestead have sported beneath them in infancy, and reclined in their shadow in old age. That exquisite ballad, "Woodman, spare that tree!" is brimful of poetry, because it is full of truth and vibrates on the feelings of every heart.

Some trees attain to a great age. In a recent lecture on geology by Mr. Denton—delivered in Montreal, C. E., and reported in the *Gazette* of that city—he said that there was a tree cut down in California 96 feet in circumference. He had counted on a block of it, shown in Wisconsin, 13 rings of annual growth to an inch! Here then was a tree 2,496 years old—a tree that was a sapling when Nebuchadnezzar was a boy—that was nearly 200 years old when Socrates was born. A yew at Forthingall, in Scotland, was calculated to be 2,600 years old, and one in Kent, 3,000. There was a tree in Senegal in which an incision was made and the concentric rings counted, from which it was calculated to be 5,150 years old!

WHEN TO SELL WOOL.

We believe that we can answer this important question, which all sheep owners are putting to others, or mentally to themselves, that is, "When shall I sell my wool?" For the last ten years, we are assured by a disinterested person who has been in a position to know, good fair clipped wool has sold at prices that will average 40 cents a pound. That is, then, the price at which a farmer can afford to sell his wool at his own house or convenient market town, less the expense of transporta-

tion and sale in this city. If he can get more than this average price he is lucky. If the price is much below that, he can afford to store his wool and await a more favourable time. At the present time the price is more likely to rule above than below the average, for while cotton rules so high, people will wear more woollen cloth, and use wool in a variety of ways in preference to cotton. For bedding, as well as clothing, there is no doubt about the healthiness of wool over cotton. It is probable that the grade of wool that will be most in demand this season will belong staple fine, such as may be wanted for delaines, which will be largely worn in place of calicoes and other light cotton goods. Such will sell above the average market price. Those who have large clips of extra fine wool do not need any advice from us when to sell; they know that the prospects are all in their favour.

WIRE WORMS.

The well-known wire worm is exceedingly destructive in many parts of Europe, as here, and the best mode of exterminating them is a question of considerable importance. They have done great mischief to the wheat and other grain crops, for several years past, as well as to potatoes and turnips. Peruvian guano is found to be offensive to the worm, and either effects their destruction, in a great measure, or drives them away. The *Scotch Farmer* says:—"If the grain crops are sown in rows, the attacks of wire worms can be greatly mitigated by hoeing them in spring as soon as the attacks of the vermin are observed. Harrowings will so far have a similar effect, if the crops have been sown broadcast. The mischief in this case having been already done, such operations as harrowing and hoeing will cause the remaining live plants to tiller out and fill

up the blanks. They also serve to keep down weeds of all kinds, and allow the thinned plants to grow more vigorously. Rolling is of great advantage to the plants.

"Potatoes are also a favorite food of the wire worm, and they are often found burrowed out of sight in the tubers. So much is this the case that gardeners trap them by slices of this esculent. They sometimes ascend within, and destroy the stems of potatoes, and their depredations are often considerable in dry weather. Guano applied to the crop when planted is the best preventive of their attacks. The sets should not be cut, but planted whole, when the ground is loose and dry.

"Wire worms, however, have done more harm to the turnip crop than all others put together. They cut off the young plants when only a few fields are at once cleared. Even when the numbers are not so great as to do this, they will gnaw at the roots of the plants after being newly thinned out. Crows are very partial to feeding on wire worms, and they can distinguish by the eye, what no farmer can, every plant having one at its roots. To obtain the insects, these birds will frequently tear up, in a short time, large patches in newly singled fields of turnips, to the great loss of the owner. Farm-yard manure and bone dust rather encourage the insects to come to the roots. Peruvian guano, in the case of the turnips, is by far the most useful agent as a vermin-dispeller if rightly applied. After the land is otherwise thoroughly prepared for the crop, guano should be sown broadcast over the level surface, and then ridged up with the double-mold plow. This will bring seed and manure as closely together as is desirable. This method has been found completely successful in preventing the attacks of wire worms on turnips, when other portions, dressed with farm-yard manure and bones, were quite destroyed."

FARM OPERATIONS.



REMEMBER to destroy thistles. If they are cut off when in bloom, at about an inch above the surface of the ground, the hollow part of the stem will receive water, and the roots will decay.

In selecting seeds, choose only the most thrifty, so that your roots, &c., may be of an improved quality next

year; by continuing such a course for a few years, any vegetables may be brought to a high state of perfection.

This is the proper season for making under-drains, draining swamps, &c., &c., and the earth taken from low deposits may be placed with advantage into your hog-pens, compost heaps, &c., &c. Weeds should now be removed to the hog-pens, that the hogs may perform their share of labor in rooting them—throw into the hog-pen all potato-traps, turf, ditch-scrappings, &c., &c., and occasionally a handful of whole corn, to obtain which the hogs will keep the whole mass of rubbish in continuous motion. On removing the contents of hog-pens to the compost heap, mix one bushel of refuse salt to every cord, and this quantity will prevent those seeds from germinating which may not have been eaten by the hogs.

If the surface of your barn-yard be not so shaped as to save all the liquid drainage, you may consider that you have a hole in your pocket, or at least a source of waste which will prove equally destructive.

If your potatoes be dug early enough to spare five days before putting in turnips or other late crops, then top-dress the potato ground with six bushels of fine salt to the acre before re-seeding, and you will not be annoyed by grubs the next year, besides improving the general quality of the land.

Winter rye should be sown in the early part of September, and thus give time for the roots to become well established, so as not to be thrown out by frosts during winter. By sowing thus early it may be used as a spring fodder for cattle and sheep if desired. Winter wheat should also be sown at the same date. The preparation of soil now vacant, for wheat, should have two thorough plowings before seeding, and better if sub-soiled. Such thorough disturbance will secure a more full stand by tilling, and will prevent the throwing out by frosts in winter. Ruta-baga turnips may be sown early in August, and even those sown late, often mature well in open seasons.

Before the last cultivation of corn, sow strap-leaved red-top turnip seed; the final stirring of the soil will cover the seed, and three-quarters of a crop may be thus readily obtained, as the crop will perfect after the removal of the corn. Indeed, strap-leaved red-top turnips may be sown at any time, and even if too late to perfect, they will more than pay for the expense of seed and labor of sowing, by being plowed-in at the spring plowing, for as most of their constituents are received from the atmosphere, the ground will be materially benefitted by such treatment. This kind of turnip often doubles in size during October or November; and if the winter be open, good crops are sometimes gathered which have been sown some weeks later than the usual season.

If pastures are poor do not permit them to be too closely fed. It is better to supply other food, even at increased price, than to destroy pastures by too close cropping.

Commence the fattening of hogs this month, as the same amount of food will cause a much greater increase of growth than in colder weather.

Too much care cannot be bestowed at this time, in keeping the ruta-baga turnips free from weeds, the soil thoroughly and frequently stirred, and the crop properly thinned.

Top-dress meadows, to secure a good aftermath, as recommended last month.

Kitchen Garden.—Keep plants well cultivated and free from weeds, &c. Plow vacant ground for turnips, spinach, shallots, and other late crops, and after plowing, cart on manures and plow them in deeply and thoroughly.

Sow cabbage seed for collards. Earth up celery and cardoons, transplant endives and prepare to blanch early plantings. Sow onion seed to stand the winter. Plant shallots by Sept. 1st. Sow turnips as directed in former paragraph. Gather hops on dry days, and cure them properly. Cultivate plants in rows frequently in dry weather; for in addition to keeping them free from weeds, these frequent hoeings enable the soil to collect moisture from the atmosphere much more rapidly than if left compact. Pull up early sown onions, and expose for ripening, drying, &c.,

removing useless parts, and turning them frequently so that they may become thoroughly dried for keeping. Gather seeds as they ripen, and place them in proper conditions for keeping. Plant beans for picklers early this month. Early kinds of cucumbers may still be planted for picklers. Sow autumn lettuce. Peas may still be planted. Attend to gathering herbs; dry sage and other late herbs. Globo artichokes, which are ripe, should be gathered before the leaves begin to open, and the stems should be broken down to encourage the growth of offsets from the root.

In the latter part of the month, sow rape, cabbage, fennel, cress, &c., every week for small salads. Sow cabbage, lettuce, &c., &c., to be pricked out in cold beds for winter protection and spring use. Sow spinach for winter and spring use, &c. Manure grounds intended for spring gardening, especially where bone-dust and other slowly decomposable materials are intended to be used.

Fruit Garden and Orchard.—Strawberry beds may still be made, if not done last month. Budding should now be attended to. Old stumps which have sprouted and are intended for removal, should be trimmed off at this time, and they will not sprout again. See directions for last month.

Flower Garden.—See directions for last month. Tie up dahlias to proper stakes as supports. Flowers in pots intended to be kept in frames during winter, should have a top-dressing and a general preparation for winter quarters, by tying up, &c.

The carnation and pink layers that were lifted and potted last month, should be brought from the shade as soon as they begin to grow, and those that are not lifted, should be attended to forthwith, that they may be rooted afresh before the frost sets in.

Hot-House.—If the house were thoroughly cleaned and attended to in July, but little will be required this month. In those pots where the roots fill the soil, take off the top soil and renew it with fresh. Tie up the rods when required, and look well for insects. Pick off dead leaves, if any, and clean moss from neglected pots in damp situations. Have the house in readiness to receive plants by Sept. 15th.

Seeds of bulbous roots may be sown this month, in the following manner:—Sow them separately and thickly in a box containing light sandy soil, to the depth of seven inches, covering the seed with half an inch of sandy loam and woods earth. The earth should be kept damp, and sheltered with leaves, or otherwise protected during the winter. When the plants appear in the spring, keep them well watered and shaded. The leaves will decay in June; then place another inch of soil over them, and the next year they can be planted with the small offsets in the garden and treated like other bulbs.

Green-House.—As the weather during the latter part of August is apt to be cold and heavy, especially at night, waterings may be less frequent than heretofore, though the syringing must not be entirely suspended.

Oranges, lemons, myrtles and oleanders, &c.,

should be carefully pruned and dressed this month; and when the larger trees require re-potting, August is the proper time for the operation, though the date must, of course, depend on the season. The best rule is to move them when the first growth is over; these trees making another growth in autumn.

In re-potting the Ethiopian lily (*Calla* or *Richardia Ethiopica*,) the roots should be entirely divested of the soil in which they have been growing, so that they may come completely in contact with the fresh earth. They cannot get too much water during growth, as the Ethiopian lily will grow in a pond, provided the roots are kept at the bottom of the water. The Cyclamen, of which there are many beautiful varieties, are peculiarly adapted to in-door culture. When the decay of foliage commences,

diminish the supply of water, keeping them nearly dry; even when growing they must be moderately watered. They require partial shade during the summer months, and may be potted when the crown of the bulb begins to protrude.

Geraniums should be dressed this month—cutting, with a sharp knife, the wood of this year to within a few eyes of the wood of last year.

Cape bulbs, such as *Ixia*, *Oxalis*, *Sparaxis* and *Lachenalia*, should now be planted. The *Mignonette* (*Reseda odorata*) can be enjoyed in full perfection during winter, by sowing the seed late this month or early in September, in pots filled with fine, light soil; thin out the young growth carefully, and keep the plants near the light.

ENGINEERING DEPARTMENT.

AN OUT DOOR CELLAR

In the *RURAL* of the 15th inst., "Farmer" desires some information, about the building of an out-door root cellar—"if you think such a construction valuable for a farmer."

We consider a good root cellar one of the indispensable to a good farmer. The reason why we say good farmer is this:—A root cellar is of little benefit to any but a good practical and systematic farmer, or one desiring so to be. We say systematic, because it needs a thorough system in feeding roots and other succulent fodders to make such a course of feeding profitable. Again,—a good farmer will, as far as he is able, have a good barn and stables and everything well adapted to profitable feeding of such succulent fodders in all kinds of weather during the winter season.

In building a root-cellar—as in everything else—the adage holds good, "what is worth doing at all is worth doing well." I should not advise any one to build a root cellar of post, plank, and straw, as such an one would soon be converted into a harbor for ants and mice, and well tenant, too. I should prefer, to bury in common holes rather than build such a cellar. I find, from experience, it is better not to put more roots in a cellar at one time than will last your stock six weeks or two months, as they keep more fresh buried than in a cellar.

I will now give the mode of building what I call a good root cellar, by giving a description of one I built. Any one wishing to build can vary to suit themselves. It is attached to the end of my barn on the overshot side. The bottom of it is about on a level with the bottom of my stables. The size of it is sixteen by twenty feet. The walls are built of stone, laid in lime mortar; wall pointed in and out-side. No one stone should run through the wall, as it will be more apt to freeze. The height of wall is seven feet, which brings it to the top of barn wall. The thickness of wall is twenty inches. To prevent it from freezing at the door, I hung two doors on one frame, one swinging in and the other out. The bottom of the cellar is plastered with two coats of water lime, which prevents the rats and mice from entering. It

has two coats of common plastering overhead. This, with two windows, finishes the cellar. I then set on it a building the same size of cellar with twelve feet posts. This I divide in two stories. The first I use to keep my farming tools in, and find it better than the money it cost put out on interest. The second I use for a work shop. This I find, by having a good supply of tools and timber, such as every farmer should have, is better than double its cost.

W. H. SILVERTHORN.

MORTAR FOR BUILDING.

In common practice, the cohesion of mortar is impaired by using too large a portion of sand; it should never exceed two parts by measure to one of lime paste. A cask of lime weighing two hundred and eighty pounds, made into eight cubic feet of lime paste, should be mixed with sixteen bushels of damp sand. The notion used to be generally entertained that the longer lime was slacked before it was used, the better would be the mortar made of it.

This, however, is not the case with our common fat lime and sand mortars. The sand should be mixed with the slacked lime as soon as the latter becomes cold, and no more water should be employed than will reduce the lime to a thick paste. In preparing mortar, the unslaked lime should be placed on boards and sheltered from the sun and rain; it should be open above, and surrounded with some sand. The water necessary to slake lime should be poured upon it with any suitable vessel, and care should be taken to stir the lime so as to bring the water into contact with every portion, when it may be left until all the vapor has passed off. The sand may now be incorporated with the lime by means of a hoe or shovel; and if necessary, a little water may be added to produce a homogeneous consistent paste; when it is ready for use. Sand from the sea shore should never be employed for making mortar without being first washed with fresh water, because salt left in such sand is liable to absorb moisture and prevent the mortar becoming hard.

In putting up walls of brick or stone, care

should be taken that the stones or bricks be moistened before they come in contact with the mortar. Every brick and stone should be laid in a good bed of mortar, and should receive a blow to fix it firmly. The bricks should not be laid merely, as is the common custom, but forced down so as to press the mortar into all the pores and crevices. The superintendent of a building should give his personal attention to the vertical joints in the walls, as the mason frequently neglects to fill them up with mortar.

WIRE FENCE.

There has been but little of this fence built in this section owing to there being a native supply of materials, and where it has been erected, as a general thing, it has proved a failure, as far as I am advised, yet it looked as though it would have been a fairer test of its merits had it been put up in a workmanlike manner.

The strands have not been stretched so taut as recommended in the Rural of Nov. 15, lest when the posts were frozen in the ground the cold weather would shorten the wires enough to break them outright; but on the contrary, were put in so that in a short time they would sag between some of the posts and injure the looks and efficiency of the same.

For us, in the east, it would be a good public investment, if roads are to be fenced, and they probably will be for a long time to come, because they are already nearly all fenced, and for the convenience of the thing, to put up wire fences along many of the public roads. The expense of keeping the roads, openover and through the snowdrifts, would in a few years build all the fences necessary along the highways where stone-wall or wood fences cause the snow to lodge from four feet to ten feet deep in the traveled path. If it will do to stretch the wires so they will stay in place, I can see no reason why they may not be built so to be durable and efficient.

THE BEST WAY TO BUILD A HOUSE.

The first rule which a person should adopt who is about to build, is, *not to build in a hurry*. His plan must be well perfected; and when this is done, he may let the job on more favorable terms by not being compelled to make a purchase to a disadvantage, and by allowing the mechanics to do much of the work during the comparatively leisure times of winter; beside which, time is required to season the stuff thoroughly, and to allow newly erected walls to settle, before finishing the rooms. Secondly, he should let the job only to a reliable builder, and not attempt to beat him down below a fair price, but pay for what the work is worth. For, by making a hard bargain for the builder, he is bribing him to furnish poor material and slight his work. Thirdly, never let the job, nor commence building, until the design is not only well digested, but plans, elevations, and complete working drawings made by a competent architect. The fifty or hundred dollars required to procure these will usually be saved several times over before the completion of the job. An acquaintance, who had given much attention to planning houses, and who had read books on rural architecture, concluded

he could superintend the erection of his own new dwelling, and need not pay a professional man for plans and specifications. But not having the exact dimensions of every part, his carpenters wasted much lumber in cutting; and many alterations had to be made. He said afterwards that he had lost at least three hundred dollars in trying to save fifty; yet his knowledge of building exceeded that of most who engage in it. This is but the history of many others.

In order that such persons may know what is required in a specification, the following form is furnished, including most of the requisites for letting the job; and by its aid an intelligent carpenter or builder may make an estimate of the smaller and cheaper kinds of houses, where the labors of a competent architect cannot be had. Even then, finished, measured drawings are indispensable, or the alterations and "extras" will far exceed the cost of the best digested plan, by a first class architect. For, whenever any work is let by the job, it is very essential that nothing be omitted, in order that no alterations nor additions may be made while the work is in progress.

It will of course be obvious that much variation will be required in adapting this example to any particular building; some portions will be omitted, and many things added, as circumstances require.

Carpenter's specification.

Stories.—Cellar 8 feet, first story 9 feet, second story 14 feet at peak, furred down level, making it 8 feet: all in the clear.

Timber.—Post and sills each 4 by 8 inches; interstices and braces each 3 by 9 inches; trimmers and trimmer beams or joists 4 by 9 inches, each 20 inches from centres; hip and valley rafters 4 by 8, all other rafters 3 by 6 inches, 3 feet from centres; braces 4 by 6 inches; studs 3 by 4 inches, 24 inches from centres, all sound and seasoned [specify the kind] timber; each tier of beams or joists cross bridged. Exterior walls to be filled in with burnt brick; and furred off with plank 16 inches from centres; first and second floors prepared for deafening.

Partitions.—All of 3 by 4 inch plank, 16 inches from centres; door and window posts 4 by 6 inches.

Windows.—Sash all 1½ inches thick—for other sizes and dimensions, see drawings.

Roof.—Boarded with best hemlock inch roof boards, with one inch joint, covered with best shaved pine shingles, half an inch thick at the butts, and 5 inches to the weather.

Cornice or eaves as shown in drawings, [or formed on brackets sawed out of four inch stuff;] 4 inch tin leaders; gutters, valleys and around chimneys, lined with sheet lead.

Siding.—Three-quarter inch clear narrow white pine, rabbeted to show half an inch on the lower edge; put on in courses and well nailed.

Floors.—First story laid with clear 1½ inch white pine, well seasoned; second story, with good quality 1½ inch white pine; all tongued and grooved and well nailed.

Base.—A neat plank base, with mouldings,

for all the rooms and closets, and surbase for the kitchen,
Doors.—Entrance door 1½ inch thick with

side lights: other doors 1¼ inches thick; all hung with butts, and fastened with Morse's latches.

HORTICULTURAL DEPARTMENT.

A FRUIT ORCHARD.

As the period will soon arrive when those who desire to make due preparation for setting out a fruit orchard will have to take the preliminary steps for carrying out so laudable a purpose, it may not be regarded as inopportune if we point out some facts which ought to govern them in the choice of a site. It must be borne in mind also, that the several kinds of fruit trees flourish best in soils that differ very widely from each other, and that any mistake in this matter, such, for instance, as planting the plum or the pear in a sandy soil, or the peach in a stiff clay, or even a heavy loam, would inevitably lead to certain disappointment. With a view to a correct appreciation of what ought to be done in planting out an orchard, we have taken the pains to collate and condense from the best authorities on the subject, the following summary of conditions that should be observed:

In the first place, then, as to location. That should invariably be on the uplands, for it is indispensable that the subsoil should be dry, and wherever the land is at all wet, resort must be had to underdraining. The best soil for the apple is a strong loam liberally limed and manured.

The pear flourishes the best in a stiff soil, with a large admixture of clay, although it will do well in almost any soil that is not too sandy, but care should be taken not to enrich the ground too highly, or the rapid growth of wood will be at the expense of perfect fruit, and will also pre dispose it to fire blight. If dwarf pears are planted, those being grafted upon quince stocks, a cool situation and a damp clayey soil is to be preferred. With regard to the plum, the more compact the soil the better the tree will prosper, and there is this further advantage in choosing a heavy clay for this fruit—it may be tramped firm about the stem, and thus, to a certain extent, prevent, by the closeness of its texture, the harboring of the curculio. It is owing to this cause that the plum succeeds so well in places that are constantly trodden by cattle and in the yards of city dwellings.

The cherry succeeds well only in dry, warm situations, and in sandy, gravelly loams. The peach also prefers a sandy or gravelly soil, and one that is tolerably poor rather than a soil in a high state of fertility.

With these guides before him, any of our readers can judge what soil is best for him to choose, taking into consideration the kind of fruit he desires to cultivate, and of course with the reservation that the nature of his land admits of a choice in the matter.

One other essential to success in fruit culture is deep cultivation. Previous to planting out the young trees, the ground should not merely be deeply plowed, but should also be well subsoiled. The greatest possible benefit is invariably derived from loosening the soil, either

by trenching or by the use of the subsoil plow to a depth of at least two feet—but if the ground is naturally wet, underdraining must precede the trenching or subsoiling, or the trees will not be benefited by any amount of labor that may subsequently be bestowed upon them.

As a general rule, fruit trees planted in early spring are believed to succeed best, because the temperature of the air and the greater frequency of warm rains facilitate their growth, whilst the mellowness of the soil at that season of the year admits of being more thoroughly pulverized, and of course of the freer expansion of the roots when they take a start to grow.

There are, nevertheless, occasions when fall planting may be pursued with more than ordinary success. It is usually a period when labor can be best spared from the customary field operations, and therefore the work required to be done can be performed more thoroughly than in the spring, when every species of farm work demands immediate attention. Moreover wherever the winter seasons are not of extraordinary rigor, as is mostly the case in this latitude and to the South of us, fall planting, if the trees are well staked, has certain advantages which should be duly considered. In trees set out in the early part of the season fresh roots are formed and additional supplies of nutriment stored up ready for spring use; and at the first commencement of warm weather the foliage puts out as freely as if the tree had never been removed.—*Rural Register*.

HIGH AND LOW TREES.

In years gone by, as the remaining trees in old orchards show, there was an almost universal practice of throwing the tree-tops high into the air; first, by allowing the trunks to arise some six or seven feet before they threw out branches; and second, by pruning the branches near the trunk, leaving merely a tuft of limbs at the extremities of these naked arms. These outside tree-heads,—formed on branches that had the appearance of *artificial* trees thrown out from the trunk,—of course receded further from the main body of the tree each year.

The disadvantages of this way of growing trees are the greater liability to be shaken and broken by high winds; the longer the lever, the greater the power in raising heavy bodies; the further the heavy tree-top is removed from the earth, the more power the winds will exert to overturn a tree. Then the branches are more liable to be broken by the weight of top being far removed from the trunk, or if not directly broken they are severely twisted, and thus made unhealthy, which, in due time, insures their decay.

The fruit on such trees is more liable to be prematurely blown off by high winds, and it is gathered with much more difficulty when ma-

ture. If the tree is shaken as is still the custom with many, the fruit is sadly bruised by the fall from these high tree-tops, and if picked off, the danger to life and limb is increased in a greater ratio in the operation than the increasing distance from the ground.

But there is yet another objection to this method of tree-forming, fully equal to, if not greater, than all others. Sap is the life of the tree, and the excess of sap goes to perfect the fruit. The longer the trunk and branches of the tree, the more of this must go to support the wood; the more the small branches are thrown into tufts at the extremities of large limbs, the fewer will be the leaves to elaborate sap for the nourishment of the tree and perfection of fruit; consequently, a feeble tree and small and inferior fruit will, in the end, be the result of the miserable system.

By the above noted system of tree-growing they are more exposed to the ravages of insects. The more bare wood and greater exposure of it to atmospheric changes, the feebler the tree and more subject to attacks, not only of the host of animal depredators that feast most greedily upon such trees, but lichens gather on them more readily and feed on their very vitals. Any one must know that these evils cannot so readily be contended with on a high, ill-shapen tree as when near the surface; so that, besides the increased amount of danger from the evils alluded to, the difficulty of obviating them is so much increased, that in a sort of indolent discouragement they are neglected; and old, moss covered, worm-webbed, insect-bored trees in a few years take the place of what may now be a young, thrifty and promising orchard.

When nature raises trees, she does it on her own economical plan,—one best calculated to give health and long life to her subjects. In the forest we see trees shoot up their tall, mast-like trunks with a few branches at their extremities. Such trees are protected by surrounding trees while the forest remains; but remove the burden of timber, and how the remaining trees are rocked and shaken by the wind? How often their beautiful heads are decapitated by the raging storm? Who ever saw such trees on the border of a wood-lot, or standing in isolated positions about fields? Such trees, if on the border of wood lands, throw out branches near the ground, to shield the body of the tree from storms and sunbeams. And the specimen of unrivalled symmetry in the field—how low its branches and how beautifully it throws its long arms abroad! Yet these arms are not the naked ones that invite disease, but all along their length, they throw out little branches, from each of which a clump of leaves appear to aid in furnishing the tree with healthy life-blood. If these branches become too numerous, or if the weaker interfere with the stronger, nature prunes and casts off what is superfluous.

But to our fruit trees. The best specimen of an apple tree we ever saw, made its head so near the ground that a person can without difficulty step into the lower branches, and these branches spread so low that the fruit can be gathered without difficulty by a person stand-

ing on the ground. They are long branches, and the top of the tree forms a symmetrical hemisphere. Neither the axe nor the saw has been necessary to forming that tree head. The hand and the pruning knife directed the first starting of these branches, and here they stopped, unless two combatant branches so interfered with each other's rights that one of them must be removed. The tree-top is so dense and so wide, that the hot midsummer sun cannot send his fiery rays to scorch the unprotected part of the tree. They fall upon its leafy head, and the warm atmosphere is diffused along the trunk and among the branches. No insects have ever disturbed the tree, unless it were some straggling worm that so far forgot the rules of propriety and honor as to commence its web among its branches. And what is far better, and of more importance, it has never failed of a crop since it commenced to bear. Low trees come into leaf, flower, &c., earlier than tall ones. A pear tree seven feet high had branches within a foot of the surface of the ground. The lowest branches were in full leaf before the buds on the top of the tree had developed the color of the leaf. And a plum tree, with branches near the ground, gave blossoms on the lower branches from a week to ten days earlier than they appeared in the upper part of the tree. Let the difference continue in the same ratio through the season, and many of our fruits would be raised in much higher perfection than they now are.

We have no doubt but many of our old orchards have been injured more by injudicious over-pruning than in any other way. Tree-pruning was almost a mania. It must be done every spring. This lower limb must be taken off, and that branch pruned as far out as the operator dared to venture and could reach with the destructive axe. Such a system of tree torturing and tree mutilating could not be otherwise than destructive.

WALKS AND TALKS IN THE GARDEN.

"No want of rain now. Such a growing time, especially for the weeds, we have not had for some years. All succulent vegetation is rampant. You can almost see the cabbage grow."

"I was once in Mr. Sullivan's big corn field, in the Sciota Valley, with M. B. Batcham, of the *Ohio Cultivator*. The field had grown annual crops of corn for over fifty years. The crop was then rioting in luxuriance. 'What a splendid soil and climate this is,' I remarked. 'Yes,' said Mr. B., 'all you have to do here is to keep out everything that you do not want to grow. The rest will take care of itself.'

"Standing there in that vast corn field, with not a weed to be seen, I could not but feel the force of the remark. And it is equally true of a good garden. Keep out everything that you do not want to grow, and in nine cases out of ten you will have good crops.

"These laterals on the grape vines you do not want. Out with them. They rob the vine, and absorb sap which should go into the grapes.

"These runners on the melon and cucumber

vines are not needed. Pinch them off. Shorten them in, and let the whole strength of the vines go into the fruit. Of course you must have leaves enough to elaborate the sap, but if you leave two or three ahead of the fruit it will be sufficient.

"So of tomatoes: this immense growth of shoots is not needed. Off with them. Keep out everything that you do not want to grow, and the rest will take care of themselves.

"But in such showery weather that we have had lately it is not easy to keep out the weeds. Cut them off, and the next morning they are as fresh and vigorous as ever. Nothing for it in such a case but to pull them up by the roots.

"It has been a splendid time to set out strawberry plants. Out of several hundred planted about the 1st of August I have scarcely lost a plant. This was on ground trenched and manured for the purpose last fall, and a crop of peas taken from it this spring.

"Amongst our old strawberry beds there was one or two beds where the plants had been allowed to run together. Wishing to have them all in rows, these were dug under and some new plants set out about the middle of August. *These have not done so well;* perhaps because the weather has not been so wet, and also because the old strawberries have pumped out a good portion of the moisture from the soil.

"There are few plants that evaporate moisture through their leaves more rapidly than the strawberry. I have known them suck out all the moisture from the soil two feet deep.

"It is not yet too late to set out strawberries. If the weather is moist, they will do as well set out this month as last, or even better."

"What would I do with the old beds?" If in rows, cut off all the runners and dig up the ground between. Some cut off the leaves of the plants that are left, but I think it is better to allow them to remain. The *Triomphe de Gand*, which has a tendency to grow too much out of the ground, should be earthed up a little. The one grand rule in strawberry culture is to cut off the runners as fast as they are formed. Allow nothing to grow that you do not want.

"So of raspberries and blackberries; allowing so many young shoots to remain is a waste of the vital energy of the plant. I would cut out all except the three or four that are needed to bear fruit next year. The old shoots that have fruited this year should also be cut off."

THUMB AND FINGER PRUNING.

It is well to leave limbs on young trees until they are so large as to render the use of the knife necessary. Trees are occasionally injured by being kept severely pruned. The growth of branches is necessary for the development of roots. A young hedge in this neighborhood came to an untimely end, last season, from too severe and constant pruning. The owner was determined to make it a model for neatness, and accordingly, as soon as a growth of an inch or two was made, it was sheared; and this operation was repeated during the season. The result was, the roots could make no strong growth; they were

short and near the surface; the hedge suffered just as soon as hot weather came on, became sickly, and died.

Still, there is no philosophy in neglecting trees, and allowing useless branches to live upon them for years, to be finally sawed off and committed to the fire. On this subject we find in the *New England Farmer* some interesting remarks, which we give:

"Now is the season to perform one of the most important operations in the apple orchard; that of removing the young shoots which started in the spring, and have made a growth of from one to six inches in length. These shoots start out mostly on the upper sides of the large branches, grow with great rapidity and if not arrested early, form that part of the tree which it is the most dangerous to cut off. If they are allowed to grow two or three years, they are sometimes an inch through at their base, and can not then be removed by saw or knife without leaving an ugly scar upon the tree, and the wound becomes a dangerous one, unless made when the tree is in a favorable physiological condition, and it is treated with proper skill.

"There should be little use for the saw or knife in an orchard less than forty years old, unless in case of accident. After that time, or perhaps ten years later, some of the limbs begin to die, and then these tools become necessary. The pruning should be performed when it can be done with the thumb and finger—and now is the time to do it. Pass through the orchard, examine all the limbs that start directly from the main stem of all the trees, and wherever young shoots are found, rub them off, being careful to take them so close as to prevent an aftergrowth. They should all come off, with a single exception, viz: If the tree, by accident, unskillful pruning, force of wind, or any other cause, has lost a proper balance; if one side has more branches than another; or if the top is open and too much exposed; then leave one of these young shoots, and train it to occupy the very place you wish to have filled.

"By this process of pruning, you will rarely need to use the knife; the trees may be brought up smooth, and with symmetrical form, and they will not be full of internal wounds to weaken them, and hasten their decay in later years.

"Let us urge upon the young orchardist at least to try this method now; and if the knife and saw are necessary, now is the time to use them."

CARNATIONS.

M. NAUDIN, in his report of the Exhibition of the Central Society of Horticulture, tells an anecdote of the Emperor, who last year visited the Exhibition at Fontainebleau, and was very much surprised not to see his favorite flower, the carnation. "Why," asked he, of one of the principal exhibitors, "have you no carnations among so many flowers?" "Sire," was the reply, "carnations are not fashionable; no one cultivates them." This year they have become favorite flowers.

DOMESTIC ECONOMY.

SWEEPING CARPETS.

The attractiveness or repulsiveness of a house has a great deal to do with the national condition of agriculture. What is the reason that there has been such an improvement already in the productiveness of farms in many parts of the country? In some places this increase has been a hundred per cent., according to the estimate of old and experienced cultivators. This is owing in a great measure to the *respectability and intelligence* which has been connected with the profession. Stupid and ignorant men will of course cultivate badly, and obtain small products. But wide-awake quick-observing, reading farmers, will find out every avenue to success and profit. But such smart men will not be willing to live in dirty hovels. They want neat houses, attractive grounds, fine looking farms. But if they want a clean apartment to enter on returning from the field, they ought of course to contribute their share towards it. They will leave their coarse boots in the outer entry, and use slippers within doors. It is hard to keep a carpet clean, when soil is brought in at every ingress of rough feet. Nothing wears a carpet out sooner than grinding soil into it. Nothing makes it harder to keep a room clean, than the clouds of dust rising from a carpet sweeping, settling on furniture, maps, books, clocks, and clothing. So much by way of hint to the men.

Now for a few suggestions to the women. The art of sweeping a carpet well, is one requiring a good deal of practice and skill. Many never learn it properly. It is done in three different ways. First, by those who draw or thrust a broom carelessly over it, raise much dust, and leave more than half the dirt behind, to be ground into the fibre by careless feet. Secondly, by those who sweep clean, but who, driving the broom in flourishing semi-circles before them, break off the splints and raise suffocating clouds of dust. Thirdly, and rightly, by drawing, not pushing the broom, making short and rather quick strokes, and taking special care not to give an upward flourish at the end of each. Give a rather light touch, and not scrape the broom over the carpet. Unless a carpet is very dirty, neither tea-leaves, nor wet fragments of paper, nor moist grass are necessary, in gathering the dust. They often soil the carpets by forming minute portions of mud; and if the broom becomes moist, it defects the base board, unless carefully used. Do not begin at one side of the room and sweep the dirt over and over until it reaches the other side. This process will be sure to work a part into clean portions of the carpet, if there is much dirt on other parts. But take up on a dust-pan all the heavy portions as soon as swept up together. For the same reason, a dust-pan should be used for each step of a set of stairs, instead of sweeping the whole from top to bottom. For the latter purpose a short-handled broom is most convenient.

As an important assistant in sweeping carpets, the new patent carpet-sweepers (costing

about two dollars) are valuable. They have several important advantages, the two most prominent of which are in scarcely rising any dust at all, the whole being deposited in a tight box the very moment it leaves the floor; and in not rolling the dirt over and over the surface of the carpet, as in using a broom. But they will not enter the corners, nor under bureaus, and a hand-broom must be used for these. It must not be forgotten that dirty and neglected corners spoil the appearance of the finest room.

After a carpet is swept and the dust settled, it is important that the furniture be well dusted. Its durability depends on keeping it clean. Where a patent carpet-sweeper is properly used, much of this dusting will be avoided as well as the evil of brushing the dust from the furniture again on the carpet. The last named inconvenience may however be prevented in any case, if all the principal articles of furniture are provided with muslin covers, to be placed over them just before sweeping, and removed and shaken out-doors immediately after the settling of the dust.

HOW TO PRESERVE EGGS.

Eggs for preservation should be removed from the nest daily, and then laid down as fresh as possible. One bad egg may spoil or contaminate dozens or a jar full.

Another excellent method, as we are informed, for preserving eggs, is to mix a bushel of quick lime, two lbs. of salt and half a lb. of cream tartar together, adding a sufficient quantity of water, so that an egg may be plunged in to the point. When a paste has been made of this consistence, the eggs are put into it, and may be kept fresh, it is said, for two years.

"It ought not to be overlooked," says Dixon, "with respect to the preservation of eggs, that they not only spoil by transpiration of their moisture and the putrid fermentation of their contents, in consequence of air penetrating through the pores of the shell, but also by being moved about and jostled when carried by sea or land. Any sort of rough motion, indeed, ruptures the membranes which keep the white, the yolk, and the germ of the chick in their appropriate places, and, upon these becoming mixed, putrefaction is promoted.

"The dealers are reported to have recently discovered that immersing eggs in sulphuric acid is a very effectual means of preservation and it is very probable it is so, for the sulphuric acid will act chemically upon the carbonate of lime in the shell, by setting free the carbonic acid gas, while it unites with the lime and forms sulphate of lime, or plaster of Paris. The pores of the shell will in this way be closed up with the plaster of Paris, and in a more minute and effectual way, too, than could be done by its direct application."

Another method to preserve eggs in a fresh state, is to dip them in a solution of gum Arabic, and then pack them in powdered charcoal. The gum Arabic answers the purpose

of a varnish for the eggs much better than any resinous gum, as it can be easily removed by washing either in warm or cold water, besides it is much cheaper. Eggs preserved in this manner will keep any length of time, as the bed of charcoal from its porous nature, is a non-conductor of heat, and consequently maintains around the eggs a uniform temperature—preventing them from suffering from alternations of heat and cold, when they are removed from one climate to another. This method is said to be infinitely better than greasing them, for when the grease becomes rancid it hastens or promotes putrefaction of the animal matter in the egg.

The gum Arabic may be applied as follows :—Take equal quantities of gum Arabic and water ; when the gum is dissolved, coat the egg with a soft brush. When this coating is dry, add another coat, and the eggs will keep fresh till wanted.

A German chemist had discovered an easy mode of preserving for six years, or probably for a longer period, eggs perfectly fresh and fit to eat. All that is necessary is to put fresh laid eggs into a bottle with a large mouth and short neck, and fill it with lime-water.

The way to make lime-water is as follows ;—Throw into a vessel containing ten or fifteen quarts of water, five or six lbs. of unslaked lime, shake it well several times, then let the lime settle and pour off the water, which is perfectly limpid, although it has dissolved a portion of the lime. To make sure of its being saturated with the lime, after having filled the bottle containing the eggs until the water is about three inches above them, add a small quantity of quick-lime to close the bottle.

SCIENTIFIC MODE OF BOILING MEAT.

When animals are newly killed, there is an acid secretion in their flesh which turns blue litmus paper red, and which renders their flesh easy of digestion, if it be eaten immediately. In a few hours, however, this acid evaporates, and the meat becomes hard and difficult of digestion, till it has been softened by cookery, or kept sufficiently long to have become tender from the process of decomposition having commenced. In Liebig's recently published work on the "Chemistry of human Food," we are told that boiling flesh slowly effects a chemical change in its composition ; and, according to the length of time employed in boiling, and the amount of water used, there takes place a more or less perfect separation of the soluble from the insoluble constituents of flesh : the water or soup in which the flesh has been boiled, containing the soluble matter, and the *bouilli* or meat from which the soup was made, consisting chiefly of fibrous insoluble matter, nearly useless as nourishing food. Thus it is obvious that when the water in which the meat has been boiled slowly is thrown away, by far the greater part of the soluble or nutritious matter is wasted. A very different mode of cooking should be adopted when it is wished to eat the meat. The muscular fibre of flesh in its natural state is everywhere surrounded by a liquid containing dissolved albumen.

When this is removed by boiling with water, the muscular fibre becomes hard and horny, and this hardness increases the longer it is boiled. "It is obvious, therefore," observes Liebig, "that the tenderness of boiled meat depends upon the quantity of albumen deposited between the fibres, and there coagulating ; for the contraction or hardening of the fibres is thereby, to a certain extent, prevented. If the flesh intended to be eaten be introduced into the boiler when the water is in a state of brisk ebullition, and if the boiling be kept up for some minutes, and then so much cold water added as to reduce the temperature of the water to 158°, the whole being kept at this temperature for some hours, all the conditions are united which give to the flesh the qualities best adapted to its use as food. When it is introduced into the boiling water, the albumen immediately coagulates from the surface inwards, and in this state forms a crust or shell, which no longer permits the external water to penetrate into the interior of the mass of flesh. But the temperature is gradually transmitted to the interior, and there effects the conversion of the raw flesh into the state of boiled meat. The flesh retains its juiciness, and is quite as agreeable to the taste as it can be made by roasting ; for the chief part of the sapid constituents of the mass is retained under these circumstances, in the flesh."

WORKING BUTTER.

Every one knows that to make good butter, and that will keep well, all the buttermilk must be worked out. It should be worked first, when freshly taken from the churn ; then salted with the purest salt, one ounce to a pound of butter ; then allowed to stand 15 to 20 hours ; then worked till the brine runs from it clear, and then packed. In working, the butter should be cut and pressed, but not rubbed or spread, which injures the grain of texture. Good butter is made both by washing, and by not washing—but as a general rule, cold water is beneficial when the butter has come soft and light colored.

CHURNS—AND WORKING THEM.

The best churn is the thermometer churn, because it gives complete control of the temperature. But the old churn with vertical dasher, being the simplest, has advantages over all others ; and by care in examining the cream with a thermometer, and tempering by the means already described, it does well. It should never be worked by hand—this is too laborious, and time is too valuable. Horse power is good for large dairies, or where the milk is churned ; water power is apt to fail in the dry part of summer, when most needed, and it is expensive to keep the machinery always in repair. It is expensive keeping a large dog for churning, and such an animal is often a great nuisance. H. OLMSTEAD, of Delaware county, N. Y., a skillful dairyman, prefers a *large sheep*, (large coarse wool breed,) and states that it will churn three times a day without inconvenience—will churn the butter for 20 cows—costs much less to keep than a dog

—and secured with a light chain fifteen feet long, so that its place for feeding may be changed once a day, it is always ready. When done with in autumn, it is turned with the rest of the flock, and requires no further care till spring. One such animal was used for a 15-cow dairy till 18 years old; another until 17 years old; and a third, now 13 years old, churns from 2,000 to 3,000 lbs. of butter yearly. Both endless chain and circular wheel power may be used.

A RAT SUCKING A COW.

Many anecdotes are told of the cunning and sagacity of the rat, as well as of its daring, and the ingenuity of its schemes for obtaining food, but the following fact having come under my own observation, may not be considered unworthy of notice; for although similar instances have, I believe, been recorded, they are of such rare occurrence as not to obtain general credence. On going into my own cow-shed, a short time since, to see a newly-calved cow, I found her lying down, quietly chewing the cud, and to my astonishment, I observed a huge rat lying at full length between her hind legs, sucking vigorously at one of the teats. My first impression was that the rat was dead, however he had got there: but I soon discerned the bright eye of the rat turned toward me, the point of the cow's teat in his mouth and the quick suction movement of his jaws and throat. So fascinated did the rat appear with his refreshing occupation, that he took no further notice of my entrance than by watching me out of the corner of one eye, and was not even disturbed by my calling loudly to the gardener at the lower end of the yard to come and witness the novel sight. His exclamation on seeing was, "Well, sir, I'm sure I never did see such things as that in all my life."

Nor was it until he stooped with the intention of seizing the thief by the tail that the rat attempted to move. He then sprang suddenly from his soft bed and made a dash towards the corner of the pen, where he quickly met with the reward of his temerity and was knocked over with a stick.

INDOOR GARDENING.

One of the prettiest ways of having flowers in rooms is perhaps the fashion of little hang-

ing baskets. In flower stands and on tables, and even in window boxes, it is often difficult to arrange climbers nicely; they either require height in the way of trellises, which we find it hard to give, or they droop down in an ungraceful fashion. In the use of hanging baskets neither of these things happen. The climbers may if they like twine up the wires or cord, or they may still more prettily droop down round the basket. One of the prettiest things for this is the little Campanula, its bright blue flowers trail down neatly and yet closely into a lovely carpet, and if in the midst we place a pretty fern, its fronds wave over and make quite a pretty center. I was told the other day that the *Adiantum cuneatum*, one of the very loveliest sorts of Maiden Hair, did well for such a purpose, and this would be, I think, the prettiest kind to try; although it is a stove fern, it has been kept for years in a room window, and, in fact, it seems one of the most easy of its class to manage.

The wild pink geranium is another delightful and very aromatic basket plant, and the little blue lobelia, and the beautiful *Torenia Asiatica* are also amongst those which droop down gracefully and show their beautiful blue flowers.

In arranging these baskets, the grand thing, I think, is to give enough drainage. I always put broken charcoal covered with a thin layer of moss, adding afterwards the soil that the plants require, and the charcoal occupying a space of perhaps two inches, a little water generally collects there. Any one used to watering these baskets soon comes to know by weight if they are dry or wet, and if by any chance one morning the soil should seem still moist, the daily watering ought to be then omitted.

Common black hair-pins are excellent pegs to use for fastening down the runners of creeping things, when we want not to show a quantity of sticks, and for tying up window plants the narrow dark green ribbon often used for book markers is the best and neatest substitute for bass when a thin strip of it is not found suitable. I have often tried tying up plants with worsted, but that holds water too much and is also untidy looking, and threads of netting silk, though invaluable for trainers (on which the plants twine themselves,) are too apt to cut the stems to be safe for tying.

COMMERCIAL REVIEW.

The information we receive about the crops in Canada and abroad is most cheering. An abundant harvest will be raised everywhere and the farmer will make up this year for the short coming of the past. Prices have a tendency to fall, as will be seen by the table below:—

Potash, per cwt.,	\$5.60 to 5.65	Wheat, U.C. White, per 60 lbs.,	\$1.05 to 1.10
Pearlash, "	6.50 to 6.55	" U.C. Red, "	0.92 to 0.97
Flour, Fine, per 196 lbs.....	3.25 to 3.40	Peas, per 66 lbs.,	0.70 to 0.72½
No. 2 Superfine,	3.75 to 3.90	Indian Corn, per 56 lbs.,	0.55 to 0.56
No. 1 "	4.00 to 4.15	Barley, per 50 lbs.,	0.75 to 0.80
Fancy "	4.40 to 4.45	Oats, per 40 lbs.,	0.45 to 0.50
Extra "	4.55 to 4.60	Butter, per lb.,	0.15 to 0.16
S. Extra Superfine	4.75 to 4.80	Cheese, per lb.,	0.07 to 0.08