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LOWER CANADA AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER;

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES

PUBLISHED UNDER THE DIRECTION OF

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Pupil of the Royal Agricultural College of Cirencester, Gloucestershire, England
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AGRICULTURAL REVIEW.

MAY.

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EDITORIAL DEPARTMENT.

THE IMPORTANCE OF STOCK AND MANURE.

HE keeping of live stock to consume on the farm a large portion of the products raised is an important branch of agricultural economy. It is a very common, but most erroneous practice to grow chiefly grain crops, especially wheat, because they can be most readily turned into cash, and larger profits for the moment realized. To a great extent, hay, straw, and grain instead of being consumed on the farm, and fertilizing material for the land provided, are sold off without any regard to the necessity of keeping up the equilibrium between fertility and yield, by a liberal supply of manure. In the neighborhood of large towns and cities, it is doubtless good policy for the farmer to sell off all he can raise in the market which lies close to his own door; but when he does this, let him take care that for every load of produce he drives into town, a load of manure is teamed back to his farm. If this be neglected, the land will infallibly become more and more impoverished. Both farm and farmer grow poor on such a system. Unquestionably one of the worst characteristics of Canadian farming is the lack of attention to manure manufacture. This feature is so conspicuous as to excite the attention and provoke the comments of travellers. A New York agriculturist makes the following statements on this subject in a recent American paper. They are full of truth and reproach: "I have just returned from Canada, and it is a splendid country. But they are running the land pretty hard. They do not keep stock enough. It is all grain. I was on one farm

of 150 acres, and the whole stock on it consisted of 15 sheep, 3 cows, 3 head of young cattle, and 3 or 4 horses. The farmer had a stack of peas as long as a freight train, but he seemed afraid to buy sheep to eat the straw." New land, rich in the food required by plants, bears this kind of treatment for a time, but must at length succumb to a mode of tillage so exhaustive and suicidal. The early settlers in a new country, finding that abundant crops reward even the most careless husbandry, are very apt to think the virgin soil inexhaustible. But sooner or later, they will discover that they have made an egregious mistake. In proof of this, many facts might be given. For example, the State of Virginia, one of the most fertile of the earlier settled States, yielded at first immense crops of corn, wheat, and tobacco. But no manure being supplied to the soil, a process of deterioration set in which has gone on until now thousands of acres of what was once the best land in the State, have been abandoned altogether, or if worked at all, only give the most meagre return. The same causes are producing like results in various parts of this continent. Even the rich prairie lands of the west show signs of diminished vigor. Many farms in those fertile regions only yield half the number of bushels per acre which were produced at the beginning. Extensive river bottoms in Indiana, that once gave from 60 to 80 bushels of corn per acre, now yield only from 30 to 40. It has been estimated that of the lands now under cultivation in the United States, four fifths have been damaged to the extent of three dollars an acre per annum! This is indeed a prodigious and alarming dete

rioration, to which it is high time an effectual check were applied. In various parts of this Province, the complaint is made that it no longer pays to grow wheat, and many regard the land as poverty-stricken from some occult cause only to be sought in the realms of meteorology and climatology. But the solution is nearer home and far simpler. The land has been taxed until its resources have failed. The nature of the evil suggests the true remedy. Manure, as afforded by animals, is the great source of continued fertility, and the best means of thorough renovation. Its production depends upon the rearing, keeping and feeding of live stock, whereby we are enabled to give back to the soil in the state of plant food, a large proportion of what is taken from it by the processes of vegetation. Nor need the farmer's gains be even temporarily diminished by a resort to the more roundabout method of raising live products for the uses of the dairy and meat market. In the long run, heavier growths and larger profits will reward a policy, which if somewhat slow has the grand merit of being sure. By alternating forage and root crops with crops of grain, a large number of sheep and cattle can be kept, and their droppings applied to the land. It is thus that British agriculture has of late years achieved its remarkable results. Not only by the cultivation of forage and root crops, but by the outlay of almost fabulous sums upon oil-cake and other purchasable articles of food, do the more advanced agriculturists of Britain maintain their astonishing averages of wheat per acre, and still keep their land in vigorous heart. One of their number, Mr. Alderman Mechi, lets out the secrets of successful farming by saying, "My farm is overflowing with plenty, and promises a grateful return to drainage, deep tillage, plenty of manure and irrigation." Canadians must imitate such examples, or it will be impossible to maintain that place in the front rank of agricultural countries, which has been assigned us by nature, and can only be forfeited by our culpable neglect of the appliances a bountiful Providence has put into our hands.

To keep this important matter prominently before the farmers of Canada, will be one of the prime objects for which this journal will zealously and constantly labor.
—*Canada Farmer.*

Try experiments sparingly, but liberally withal.

FARMERS, WRITE!

THIS is the motto of a very racy letter by Mr. W. O. Buell, of Perth, which appears in the last number of the *Canadian Agriculturist of Upper Canada*. Mr. Buell is justly indignant that the farmers of Canada "will not write to each other through the journal." He suggests various methods of stirring them up, e.g., competition, by the Board of Agriculture offering premiums for short essays on various subjects. Or, if this will not do, he proposes to stir up our Stones, Snells, Nimmos, Millers, and others," by exciting their combativeness. "Drop the great meed of praise showered upon them,—put in a little criticism—assail the Durhams, pitch into the Galloways,—tell them their Leicesters and Cotswolds, or their Durhams and Ayrshires are too fat or too lean, over-fed or too high priced. Do something to set them in motion with their pens." Another plan suggested is, provoking a spirit of emulation. Mr. Buell speaks of a visit eastward by one of the Editors of the *Agriculturist*, and of his published notes of the trip,—notes, which though "scattered and hurried, were interesting to read." Such notes, and short pertinent letters from observing men in various localities, setting forth the experiences and doings of intelligent farmers, would lead others to emulate them.—*Id.*

MODEL FARMS.

F"Friend of Canada and a Gloucestershire Land owner," in a letter on Canadian Agriculture, makes a number of judicious suggestions in reference to the establishment of Model Farms. The writer has had the opportunity of observing for twenty years the effect of such a farm in his own country. He says: "It has extended its influence far and wide, and led to other establishments and institutions, for the improvement of agriculture, among the rest, an agricultural college for training the sons of gentlemen, and giving them scientific and practical knowledge of farm matters. But the most truly useful for the benefit of practical farmers, has been the Model Farm, the establishment of which requires a larger capital to undertake and carry out, to give it full efficiency and a fair trial, than fall to the share of Canadian farmers in general, who might gladly avail themselves of its advantages when established. My neighbors, who used to think twenty and twenty-five bush-

els of wheat per acre a good crop, now raise fifty, since they have learned suitable means for the improvement of the land,—and other crops in proportion.”

[The Model Farm above alluded to was established by a wealthy nobleman, a class of agriculturists unknown as yet in Canada. In our circumstances, it is hardly reasonable to expect that private enterprise and liberality will take that direction, but we think this is one of the modes in which the Canadian Government may materially assist the agricultural interests of the country, and we trust the attention of those in power will ere long be turned that way. Well-managed Model Farms would be of the greatest practical service.]—*lb.*

REPORT OF THE U. S. COMMISSIONER OF AGRICULTURE.

HIS is a very readable pamphlet of 13 pages octavo, containing a succinct account of the doings of the Agricultural Department of the U. S. Government for the year just closed.

Notwithstanding the war pressure upon the finances of the country, the American Congress made two appropriations during the year for agricultural purposes, amounting in all to the handsome sum of \$115,000. The Commissioner asks for an increased appropriation for the next fiscal year, and, no doubt, will get it, as the U. S. Government, aware of the vital nature of the interests of agriculture, seems determined to foster them even “in troublesome times.” The labors and expenditures of the department have been mainly in the following directions: The collection and publication of statistics in which there have been issued 20,000 circulars of inquiry, and 70,000 monthly reports; preparation and dissemination of meteorological reports; correspondence with agricultural societies and farmers' clubs; purchase and distribution of choice seeds, of which no fewer than 1,200,000 packages have been spread over the country; the maintenance of a propagating and experimental garden, from which there have been sent forth 25,750 articles, such as vines, bulbs, cuttings, and plants; and finally, the prosecution of minute and careful researches in entomology, chiefly with a view to ascertaining the best modes of extirpating insects injurious to vegetation.

Congress made a special appropriation of \$20,000 for investigations to test the practicability of cultivating and preparing flax

and hemp as substitutes for cotton. Beyond the appointment of a competent commission of inquiry, nothing has been done by the department in this matter. The commission has, however, issued circulars of inquiry very extensively, and a report is in course of preparation, based on the replies received. We shall watch with much interest for the appearance of this report, and give our readers the substance of it, as no doubt much of it will be equally appropriate to Canada as to the United States.—*lb.*

FARMERS WHO DON'T READ.

HERE is no class of people in our thriving country who hold such a vast amount of wealth in their hands as the farmers. Yet in my opinion no class make such poor use of it. You may go to many a farmer and ask him to subscribe to a first-class agricultural paper, and he will tell you he “does not believe in book farming; it may do for rich men, but it will not do for me; your costly manures and tools don't pay; your Durhams and other highly-bred animals are a poor speculation—the best stock we can get are the natives, they can fodder on straw, do not need housing in the winter, and can live anywhere.” Is it any wonder that such farmers should fail in raising fine stock and good crops, that they find farming a poor business, and combine to run it down? Their fields are like that of the sluggard, their barn-yards are scenes of misery and poverty, their houses cannot be called homes, and things are at loose ends generally. Such a farmer gets into debt, is obliged to mortgage his farm, and in the end perhaps loses it altogether. His children grow up without education, resort to other pursuits for a livelihood, and many of them grow up idle and dissipated. I know farmers who neglect their business at the season when diligence is required, and who, when winter comes, are obliged to go into the bush and get out a few cords of wood or a few stacks of timber to sell, to enable them to exist until the spring. When spring comes, their team is worn out, their seed grain all fed up, the colts are miserably poor, the cows are on the lift, there is some distemper among the sheep, and one-half the pigs are dead. Now, how is all this to be remedied? Farmers must read and think, and apply the knowledge they get to practice. “But,” says one, “we have no time to read.” Now this is not

the case. No class of working people have so much time to read and think as farmers have. Three hours of each night, through the long winter evenings, may be thus employed. It is astonishing how little many farmers read. I had occasion lately to travel through a township, and my business required me to call at every house. I took pains to examine whether there was a library where I called, and was surprised to find so few books of any description, and in many cases no books at all, except perhaps an almanac. Now how can such farmers get on? It is as essential for the farmer to be well informed as any one else, if he would be successful. Let me say, in conclusion, that many farmers are too miserly to take a good agricultural paper. They think it doesn't pay. I know two farmers worth \$15,000 each, mostly in real estate, who thought they could not afford to take a weekly newspaper alone, so they joined together and took it between them. This was their whole store of knowledge about the world around them.—*Cor. C. Farmer.*

WESTWARD BOUND!

DOUTBLESS there are many attractions in farming life at the "Far West." The fertility of the virgin soil, the abundance and cheapness of land, and the comparative ease of cultivating it (especially prairie land), the satisfaction of gathering large crops, and the prospects of rapidly acquiring wealth,—these and the like things make many young farmers in Canada discontented with their lot, and lead some annually to sell their homes and push towards the setting sun. A few succeed according to their expectations, but very many do not. Land purchased proves inferior to what it was represented, the improvements needed upon it absorb all the profits for many years, contemplated railroad or other facilities for getting crops to market are not constructed, sickness in new form invades the household, long separation from old friends and kindred begets sadness and discontent, and finally nearly all the members of the family mourn the day when first they set out to seek their fortunes at the West. We would by no means advise all young farmers to remain as they are. Change is sometimes desirable. But let every man think well before he makes the final resolve. It is no light thing for one already comfortably situated to sell out house and home, and start life again amid new scenes and among

strangers. Even if ordinarily successful in acquiring wealth, he is compelled to sacrifice many things of great value. This is especially the case if the homestead he sells is one which has descended to him from his parents, and he is surrounded by kindred friends whom he has known and loved from childhood. He who sells such a home parts with something which money cannot buy, but whose value he does not fully appreciate until he has lost it. As a general rule, the same industry and energy which would secure competency and wealth at the West, would, if judiciously applied at home, be productive of a like result.

[NOTE BY ED. CANADA FARMER.—We commend the above letter to all who are dissatisfied with their present lot, and tempted to try change. In reference to the "Far West," though there are great advantages, yet, as our correspondent very justly urges, there are corresponding disadvantages. Besides those named, scarcity of wood and water, distance from market, and consequent low price of grain, higher cost of articles of merchandise, and other drawbacks, go far to equalize East and West. The Genesee Farmer, advertizing to this subject, says: "Those who have sold their farms find, when they come to buy another, that it is not so easy to suit themselves. Land at the West is rapidly advancing, and one or two farmers from this section, who have sold their farms and gone West, would be glad if they were back in their old homes." There are restless uneasy spirits everywhere who are always dreaming of some fairy land where people can get rich without much effort. It is often the case that such learn wisdom only in the school of experience, and at the cost of bitter disappointment. We believe the majority of Canadians rejoice, as they well may, in the good land God has given them, and most assuredly discontented ones will travel many a weary league before they find a better.]

OXEN VS. HORSES FOR FARMING PURPOSES.

SOME experience and considerable observation among the farmers of Canada, lead me to offer a few suggestions on the comparative merits, viewed in various lights, of oxen and horses as working teams for farm purposes. I will, if you please, foreshadow my opinion by a quotation from the book of all books, and from the wisest of all the wise men of old 'Where the ox is, there is increase in the stall.'

That oxen do not receive the attention they deserve as farm workers is very evident to my mind, but I may not be able to make it as apparent to others. I admit that for many kinds of work, horses are preferable, such for instance as mowing and reaping—raking hay—working among field crops, &c.; but for a majority of purposes, oxen are not only quite as good, but far preferable. For hauling wood and lumber, moving stone and manure, and the like, where great strength but not rapid motion is required, no team equals an ox team. But, says an objector, "I could never plough with oxen"—this opinion arises more from prejudice than from honest comparison. A well-bred and well-trained ox team are more than a match for an ordinary pair of horses, and with the same keeping and care we bestow upon our favorites of the stable, no farmer need blush for his oxen. I have frequently, in the New England States, where oxen are more generally used than anywhere else on the continent to my knowledge, seen oxen and horses plowing in the same furrow, the oxen taking their turn without missing all day. I will not deny that oxen move more slowly than horses. But treat your horses as you do your oxen, and they could hardly move at all. You turn your oxen loose into the yard, give them coarse fodder, an open shed, or no shelter at all, while your working horses are stabled, groomed, and fed on the choicest hay, with abundance of grain—which care and feed add much to their spirit and action. Give oxen the same treatment and you will have an active, energetic, resolute team for plough or wagon.

Oxen are far more economical, and hence more profitable than horses. A yoke of medium sized working oxen can be kept at hard work as cheaply as you can keep one horse, counting the wear and tear of harnessing and the extra feed the horse runs you in debt for. The ox feels the stimulus of extra feeding of esculents and grain quite as readily as the horse, and every pound of tallow you pack upon him adds just so much to your income. He is much less liable to disease of any kind, and especially to affections of the joints and bones—and even were he subject to thoroughpin, windgalls, ringbone, splints, or all combined, his net value is not thereby greatly depreciated—as is the case with these diseases in the horse. Your proud stepping charger becomes real estate by a spavin, and when

old age creeps upon him, and he is incapacitated for labor, he is worse than a dead loss to his owners. Not so of our favorite the ox,—no blemish ruins him, in an economic point of view. Give him a few months rest in a good pasture, with a little extra feeding of turnips in the fall, and your ox is nearly as valuable as ever. His beef and tallow will always sell him.

While neat cattle enrich the ground on which they pasture, horses are a constant leach. Observe how rank and verdant the grass grows about the excrement of the ox, and notice also the reverse to be true with that of the horse. I would not argue that the horse could well be displaced altogether—but I do submit that where there is occasion for more than one team, that a team of horses and one of oxen would be far more profitable than two horse teams. This parallel might be carried to much greater length, and the more the subject is examined the more apparent will it become that the rearing and working of so many horses instead of enriching the farmers who follow it, is yearly robbing them of the handsome profits incident to the rearing of neat cattle and sheep.

Oxen are not generally used in this country from some notions of pride neither commendable nor profitable. The ox is not fashionable, and why? Simply from custom, and because no care is bestowed in getting good stock and in matching the teams. I have seen many really beautiful ox teams—so nicely matched were they that their owner would have to put a private mark on the near one that he might know to which side he belonged. So well handled were they, that the ploughman could run a furrow any distance as straight as an arrow without a driver. Throw away all prejudice against the ox, and give him a fair trial, and my word for it you will not again be without him on your farms.—*Cor. Canada Farmer.*

NUTRITIVE VALUES OF FOOD FOR STOCK.

IT is of very great importance to the breeder and grazier to know the relative feeding values of different kinds of food for stock, and many experiments have been made with a view of preparing a correct table of values for their guidance. Special circumstances, however, interfere to affect differently all such experiments, and to prevent more than a near approximation to the relative values—as, for instance, the ripeness of the crop when cut,

the weather during harvest, the feeding qualities of the animals experimented with, &c. Sufficiently accurate results have, however, been arrived at for all practical purposes.

A high English authority declares 100 lbs. of good hay to be equal to

275	pounds green Indian corn,
442	" rye straw,
164	" oat straw,
153	" pea straw,
201	" raw potatoes,
175	" boiled potatoes,
339	" mangold wurtzel,
504	" turnips, .
54	" rye,
46	" wheat,
59	" oats,
45	" peas or beans.
64	" buckwheat,
57	" Indian corn,
68	" acorns,
109	" wheat bran,
109	" rye bran,
167	" wheat, pea, and oat chaff,
170	" rye and barley chaff.

Striking a mean between the results of Boussingault's and Fresenius's experiments, we have the following as the equivalents of 100 lbs of good hay :

Red clover hay, 95	Peas.....	44
Rye straw..... 355	Indian corn.....	56
Oat straw..... 220	Barley.....	51
Ruta bagas..... 262	Rye.....	49
Field beets..... 346	Oats.....	59
Carrots..... 280	Buckwheat.....	64
Potatoes..... 195	Wheat.....	43
Beans..... 46	Linseed oil cake,	64

German chemists have made experiments specially with the view of ascertaining the relative value of different kinds of food for milch cows, and they find 100 lbs of good hay to be equal to

200	pounds potatoes,
460	" beetroot with the leaves,
350	" Siberian cabbage,
250	" beetroot without the leaves,
250	" carrots,
80	" clover hay, Spanish trefoil, or vetches,
60	" oil cake, or colza,
250	" pea straw and vetches,
300	" barley or oat straw,
400	" rye or wheat straw,
25	" peas, beans, or vetch seed,
50	" oats.

Although not strictly accurate, these tables may be of immense service to many farmers.—*Canada Farmer.*

KNOWING TOO MUCH.

FIND no man so disagreeable to meet with, as one who knows every-thing. Of course we expect it in newspaper editors, and allow for it. But, to meet a man engaged in innocent occupations,—over your fence, who is armed *cap-a-poe* against all new ideas,—who "knew it afore," or "has heerd so," or doubts it, or replies to your most truthful sally, "I ain't so, nuther," is aggravating in the extreme.

There is many a small farmer, scattered up and down in New England, whose chief difficulty is—that he knows too much. I do not think a single charge against him could cover more ground, or cover it better. It is hard to make intelligible to a third party, his apparent inaccessibility to new ideas, his satisfied quietude, his invincible *inertium*, his stolid and yet shrewd capacity to resist novelties, his self-assurance, his scrutinizing contempt for out-sidedness of whatever sort,—his supreme and ineradicable faith in his own peculiar doctrine, whether politics, religion, ethnology, hammers, manuring, or farming generally.

It is not alone that men of this class cling by a particular method of culture, because their neighborhood has followed the same for years, and the results are fair; but it is their pure contempt for being taught; their undervaluation of what they do not know as not worth knowing; their conviction that their schooling, their faith, their principles, and their understanding are among God's best works; and that other people's schooling, faith, principles, and views of truth—whether human or Divine—are inferior and unimportant.


Yet withal, there is a shrewdness about them which forces upon you the conviction that they do not so much dislike to be taught, as dislike to *seem* to be taught. They like to impress you with the notion that what you may tell them is only a new statement of what they know already. It is inconceivable that anything really worth knowing has not come within the range of their opportunities; or if not theirs, then of their accredited teachers, the town schoolmaster, the parson, the doctor, or the newspaper. In short, all that they do not know which is worth knowing, is known in their town, and they are in some sort partners of it.

Talk to a small farmer of this class about Mechi, or Laves, or the new theory of Liebig, and he gives a complacent, inexorable

grin,—as much as to say,—“Can’t come that stuff over me; I’m too old a bird.”

So indeed he is; and a tough bird at that. His mind is a rare psychological study; so balanced on so fine a point, so immovable,—with such guys of prejudice staying him on every side,—so subtle and yet so narrow,—so shrewd and yet so small,—so intelligent and yet so short-sighted. If such men could bring themselves to think they knew less, I think they would farm far better.—*My Farm at Edgewood.*

FOREST MANAGEMENT.

 **SETTLERS** in a new country very generally wage a war of extermination against the “trees of the wood.” They come to look upon them as natural enemies and cumberers of the ground, whose inevitable doom is to be cut down and cast into the fire. Since their removal is the first step toward making a farm out of the wilderness, they sweep them away as rapidly as possible. The consequence is, that many stretches of country have come to be nearly, if not quite as bare as a Western prairie, on which no plant or shrub knee-high can be seen. A monotonous belt of wood land stretches away in the rear of the cleared portions of the farms through which the highways run; but beside that, scarcely a single tree of grove diversifies the scene. This wholesale destruction of the forests of Canada is an evil that begins, at least in many localities, to demand a check. Firewood grows scarce and dear, the landscape is becoming naked; it is difficult to procure timber suitable for various mechanical uses, the shelter needed by many crops in exposed situations is removed, and unfavorable climatic changes are taking place, which can be clearly traced to the wholesale and indiscriminate destruction of timber. A little exercise of judgment, forethought and taste, would mend matters very much. For example, why cannot some of the young wood be preserved when land is cleared, to form groups that shall at once ornament the landscape, furnish shade for stock when the scorching summer sun pours down its almost tropical rays, and act as a wind-break when cold and biting blasts sweep over the fields? It seems absurd to destroy every green thing and then set about planting a new. There are many choice forest trees that transplant with difficulty, but which, left while small where nature placed them, become objects of surpassing beauty and great utility.

What is to hinder the settler from availing himself of that best natural protection in bleak situations, the woody and leafy screen which he finds ready to his hand? How much comfort might be secured to the tenants of the dwelling and the farm-yard if the house and barn were surrounded by a grove? Why cannot the standing wood which is kept as a reserve for fuel be gradually thinned out, and so managed that it shall be an ornamental appendage to the farm and a favorite run for the stock? Moreover, is it not important that second growths of timber needed by the carriage-builder, cooper, cabinet-maker, and others, should be encouraged, and, in fact, forest culture made a department of farm economy and management? If we mistake not, these hints and queries open fields of reflection which many of our readers would do well to look at, especially at the present season of the year, when it is so common to “cry havoc and let slip the dogs of war,” in the shape of ruthless axes, wielded by relentless choppers, beneath whose fell strokes every twig and sapling quickly disappears.

There is not only great need of intelligent forest management on the farms scattered up and down the land, but the preservation of trees upon the sites of towns and villages is a most important matter. Nature has made many of these sites indescribably beautiful. Centuries have been occupied in the growth of graceful and magnificent trees; hill, plain and valley diversify the surface of the land, and sparkling rills flow musically through the sylvan dells. All is lovely till man invades the scene. Full of the utilitarian ideas, bent on speculation, and having no eye for natural beauty, the founder or founders of a new town or village allow, unchecked, ram emigrants and ignorant day-laborers to begin and carry on the work of spoliation and disfigurement. Grand old oaks, graceful elms, beautiful pines, hemlocks and balsams, which furnish ornament and shade such as generations must wait for from human planting, are mercilessly felled; the royal head of every monarch of the forest is humbled to the earth, and no vestige of a tree is left, except the unsightly trunks that, piled one upon another, form the habitations of the Goths and Vandals that have conquered the region. When the destruction is not thus complete at first, and here and there a few trees are left, some idle shanty-man or stupid road-master will

destroy what settlement and time have spared. We have in our eye at present a Canadian town of some size and age which has many noble elms, maples, beeches, balsams and hemlocks in its environs, which are rapidly disappearing in the way just hinted at. Surely proprietors and municipal authorities ought to interfere and put a stop to the wholesale destruction and pillage of beautiful and valuable timber.—*Canada Farmer.*

COMMUNICATIONS INVITED.

IN our Prospectus, we state it to be one of the main objects of this journal "to afford the farmers of Canada an ever-open medium for addressing their brother agriculturists throughout the Province," and we earnestly desire to make this a leading feature of the *AGRICULTURIST*. In order to be enabled to do so, our readers must betake themselves to the pen, and send us jottings on all manner of subjects connected with farm experience and rural life. Topics are plentiful, and there are thousands of practical, experienced, and observant men in Canada, who are quite capable of discussing them in an interesting and instructive manner. Various hindrances, however, are apt to deter those who are every way fit for the task.

Modesty, fear of criticism, horror of appearing in print, conscious defects of style, grammar, spelling, or handwriting, a spirit of procrastination—these, and the like, prevent many who ought to write, from doing so. We beg our readers to lay aside all excuses, and do their best. Note down whatever you think likely to be useful to your fellow cultivators, give us your facts, figures, experiences, observations, and suggestions—never mind if the style be homely, the grammar defective, the spelling incorrect, or the writing ungraceful. It will be our care to whip into shape whatever may need improvement. We do not, of course, promise to publish whatever may come to hand. Several communications may be sent on the same topic, or a contribution may be of value, but may require abbreviation or condensing. Our correspondents must not conclude that they have wasted their labor, even though they may not recognize their productions in our columns. They may indicate subjects, supply ideas, furnish facts and suggestions, which may form material for editorial articles, and in that shape be helpful and valuable in promoting that end for which, we trust, all our readers will earnestly co-operate with us, viz: the advancement of Canadian agriculture.

FARM OPERATIONS.

WORK FOR THE SPRING.

Fences.

ONE of the earliest tasks that can claim the farmer's attention is repairing fences. Systematic managers, whose farms are divided by common rail structures, after having determined about how long they will continue, say six years, divide their whole farm into six parts and repair a sixth each year—this keeps all in good order without further trouble, and without having too much to attend to one season, and but little another. Board fences should be annually examined throughout their whole length, and loose boards nailed tight. New board fences should never be battened over the face or joints over the posts, as the practice tends to cause decay; but in the course of fifteen or twenty years, when the ends begin to rot, and become loosened, battens will secure and make them strong for several years longer. If farmers are able to replace their

old worn fences with post and rail, board or stone fences, they should begin on one side and construct a certain amount each year, keeping a register of the same. Then, in future years, when repairs are needed, they can go through the same way, and in the same number of years.

Meadows.

As soon as these are dry enough to bear feet without injury to the turf, they should be carefully picked of all loose projecting stones, which might injure a mowing machine, and then well rolled so as to make the surface as smooth and perfect as possible. Stumps should be dug or pulled out, accidental brush or other rubbish removed, and small hillocks levelled down. The farmer who has seen a mowing machine broken, at a cost of five dollars, and a delay of a day, by a stone that might have been removed in five minutes, will appreciate the importance, comfort and economy of a smooth surface. There is some satisfaction

in the reflection that new farm machinery is going to compel the adoption of a smoother and more perfect kind of farming.

Much is lost by the imperfect, thin and uneven seeding of meadows. Bare spots and thin grass, amounting as they very often do to one-fourth of the whole surface, would make a total loss of five acres in every twenty-acre meadow. Sometimes the loss amounts to much more. The importance of thick and even seeding is not sufficiently appreciated. Thin or bare patches in existing meadows may be covered with grass by running over the meadow with a fine tooth harrow the first day the surface is dry, then sowing a mixture of clover and timothy, and rolling the seed in. If the meadow has been top-dressed with fine manure in autumn or winter, the harrowing will mix it with the surface, and assist the germination of the seed, as well as its subsequent vigorous growth.

Meadows which were top-dressed with coarse manure in autumn or winter, which was more or less spread in lumps, should be harrowed as early as possible so as to break those lumps and spread the whole uniformly. Cattle droppings, or meadows on pastures should be finely beaten to pieces, and well scattered over the surface, as soon as the frost will admit, and before the frost has all disappeared from the soil. It is scarcely necessary to mention that no good farmer ever allows either his meadows or pastures to be touched by a hoof early in spring, while the ground is soft.

Teams.

Every good manager has already taken care to have his teams in excellent order for the heavy work of spring—but as they have not been much accustomed to hard and steady work, it would be advisable to plow only half a day at a time with them at first until they become well accustomed to it, using them the other half days for job-work, light teaming, etc. A little care in this respect will often prevent sore should-ers and reduced condition. The harness should be examined frequently, to see that it fits well, and to prevent chafing. It will be observed that when horses are plowing the traces draw downward, and when attached to a wagon, horizontally; the back straps should therefore be lengthened a little when they are removed from the wagon to the plow.

Plowing.

Light or gravelly soils, which quickly become dry, may be plowed at almost any

time; but rich loams should be taken at precisely the right period. If plowed too early, while yet wet, they may become poached and injured for the season. If left too late the spring rains may have settled back what the frosts of winter have loosened. Plowing well saves much labor in subsequent tillage. Narrow furrow slices, (except with sward), pulverize the soil more perfectly, and leave a beautiful mellow surface. Furrows seven or eight inches deep, and only six inches wide, are easy for the team, and leave the land in very handsome condition.

Manure.

This may be applied with advantage to spring crops, if it is in such condition as to be pulverized finely. After spreading it should always be thoroughly harrowed and broken and intermixed with the top soil before plowing under. Coarse manure should be used in compost heaps. If very strawy throw it up into heaps in the yard for remaining during the summer, if less strawy, draw it out to the fields where it is to be applied, and make compost heaps by thin alternating layers of turf or loam and manure.

Carrots.

Failure often results with this crop by being planted too late—the seeds miss, the sun burns the plants. Get them in as early as possible, or, or as soon as the ground can be made thoroughly mellow. It does not pay to plant carrots on foul or weedy ground. The labor of hoeing will be too great, but if the ground is clean, rich, and mellow, carrots may be made eminently profitable. Farmers often think it necessary to turn their animals on early grass, thus injuring the turf; but a supply of carrots in spring would give them all the advantages of green food, and none of its drawbacks.

Barley and Oats.

Sow these as early as the seed can be put in, on well prepared land—we have known a delay of two weeks to lessen the crop equal to its entire nett profit.

Potatoes.

Should also be planted early, for the great mass of experience is in favor of early planting to prevent rot.

Calves.

The great secret of success in raising calves, after keeping them clean and comfortable, is very regular and uniform feeding, combined with nutritious food, and avoiding all sudden changes in their food. On the whole, it is best to wean them very early, as they will then never suck the cow

again, nor themselves. Their food may at first be new milk, then warm, skimmed milk, then skimmed milk, with meal intermixed, thus passing from new milk to common food with meal, and being especially careful that all these changes should be very gradual, and almost imperceptible.

Wheat Crop.

Red root and cockle should be pulled early, and not a vestige of either left.

Rainy Days.

Clear out all rubbish from cellars, and keep them clean and well purified. Grease wagons, oil harness, brush up stables, examine and render perfectly clean all seed for sowing and planting. Examine and repair tools, and have them all in perfect order for the busy season now about to commence. Prepare account books, and keep an accurate account with every field.

Orchards and Shade Trees.

The enterprising farmer should not forget these. The time for planting may vary considerably with circumstances—if they have been dug up early, before the buds have swollen and have been well heeled in, they may be set out safely, even after the leaves on standing trees have begun to appear. The great point is to take up the roots with them; they are commonly nearly all left behind; stems and tops are not of much value without roots. If this point has been carefully attended to, and the roots have been well spread out in every direction when set, and placed compactly in fine earth, they cannot fail to grow; there is no use in losing one in a thousand. After that, the great requisite is to keep the surface mellow and well cultivated.—*Tucker's Annual Register.*

SWAMP LAND.

A 'THING of beauty is a joy forever.' This is true, we suppose of everything, without reference to its past history. But there is a special beauty about an object, redeemed from positive waste and ugliness, and made to minister to human wants. There is a bit of swamp land in view from our window, where three years ago we could not walk without wet feet, and which, from the creation down, had only borne brush and sour grasses. It is now thickly covered with a beautiful sod of herds-grass and white clover. It has been drained, and the surface is now as dry as upland. Last year the acre and a half cut three tons of good hay, and this season it has pastured

two cows from June to September, giving them a full flow of milk, and the feed is still good. The pasturing is worth at least twenty dollars. Muck enough has been taken from the ditches to pay for the whole cost of reclaiming. Three years ago it was not worth thirty dollars. It is now worth three hundred, and will pay the interest on that sum while grass grows and water runs.—*Colonial Farmer.*

LIMING LAND.

THIS was the subject of discussion before a Scotch Farmers' Club, when one of the leading speakers said that "his experience taught him to be no advocate of liming land heavily at the outset. Where land was requiring lime, he gave first a small dose, and then lime every five years; and he thought this kept the land in better heart than by giving it a large quantity at once." He subsequently remarked: "Some people spoke of giving the lime as manure; but if they did not give dung at the same time, it would not do much good. The great thing was to give plenty of dung, and there was not much fear of over-liming. Many a time land was said to be overlimed, he believed, when poverty was the ailment; and if they gave lime along with plenty of dung, there was no fear of getting good crops of all kinds."

BEANS AS A FIELD CROP.

BEANS are too little cultivated in Canada. For years past they have been selling very high; and at all times they are most valuable as food for man and beast. Bean meal is said to be the very best food for milch cows. Speaking of the cultivation of the white bean, the late Judge Buel wrote thus:—

"They are a valuable crop, and with good care are as profitable as a wheat crop. They leave the soil in good tilth. I cultivated beans the last year in three different ways, viz: in hills, in drills, and sowed broadcast. I need not describe the first, which is a well known process. I had an acre in drills, which was the best crop I ever saw. My management was this: On the acre of light ground, where the clover had been frozen out the preceding winter, I spread eight loads of long manure, and immediately ploughed and harrowed the ground. Drills or furrows were then made with a light plough, at the

distance of two and a half feet, and the beans thrown along the furrows about the 25th of May, by the hand, at the rate of at least a bushel on the acre. I then gauged a double mold-board plough, which was passed once between the rows, and followed by a light one-horse roller, which flattened the ridges. The crop was twice cleaned of weeds by the hoe, but not earthed. The produce was more than forty-eight bushels by actual measurement."

An idea prevails very generally that the kinds of bean sown in England as a field crop will not do in this country. Our impression is that this is a mistake. We have heard that some old country farmers have had good success in raising them in Canada. We shall be glad to hear from any of our readers who have had experience in this direction.—*Canada Farmer.*

CLOVER.

IT is an accepted axiom of English farming that if you can raise good clover crops, you can raise good crops of everything else. But the clover must be consumed on the farm. In Canada, where produce is low, capital dear, and artificial manure little used, clover is invaluable to our farmers. It cannot be too widely cultivated. It is equally valuable as green food for stock, as hay when well cured, and as an invigorating crop for the land. It is said by good authorities that at the end of the second year, the quantity of dry vegetable matter left in the form of roots, is equal to upward of one-half the weight of the whole hay which the clover has yielded. We suspect, however, that the annual increase of clover roots, after the second year, is far less than in the first and second years, and that there is little gained in letting land lie in clover more than two years.

For clover, plaster of Paris makes a capital top-dressing. It has sometimes a marvellous effect. 100 lbs. per acre will answer. It should be thrown on the land just before or after rain, or early in the morning while the dew is yet on the ground. A top-dressing of well-rotted manure has an excellent effect on the clover crop. A top-dressing of plaster immediately after haying secures a heavy aftermath.—*Id.*

Fresh tan bark is not of any manurial value, yet after years of decay and decomposition it becomes fair vegetable mould.

THE CULTIVATION OF ROOT CROPS.



OW that we may reasonably suppose the mass of Canadian farmers to be revolving the questions, how best to lay out their farms, and what disposition to make of their fields the coming season, we desire to put in an earnest plea for the devotion of a fair measure of attention to the culture of roots. The substitution of modern agriculture, of root growing, for the system of naked fallowing formerly in vogue, has wrought wonders wherever it has come into effect. The simple formula—"grass grain, and roots"—is an immense advance on the old one of grass, grain, and fallow." Instead of leaving a field uncultivated for a time to be slowly re-fertilized by sun, wind, and rain, the best agriculturists of the present day secure the same result, with great advantage to themselves and their land, by the cultivation of a crop which does not require the same species of food, but can thrive on some of the materials left in the soil, and at the same time derive a large amount of nourishment from the air. Root crops fulfil these conditions. They search in the soil for elements not taken up by grain; while scientific experiments have repeatedly demonstrated, that by means of their long, broad leaves, they draw more largely on the air than on the earth for the material of growth. The discovery and practical application of these principles formed the turning-point of improved British agriculture, and brought about changes little short of magical in the farming regions of the old world. It is found that root crops restore fertility better than fallowing, give a greater return in value than any other description of product, provide an immense amount of fodder, and what is of the last importance, increase the manure heap, both in bulk and richness.

But simple and self-evident as these things appear when reflected on, it is obvious that they are too much overlooked. There is a great deal of old-style agriculture practiced still. By constant cropping with the same or similar products, much choice land is being rapidly exhausted, and many farms are becoming so reduced, as to be scarcely worth tilling. Who is not familiar with that condition of soil which is indicated by the expressions, "worn-out," "skinned," "hare-run," and the like? To prevent this stage of things, and to recover land that has been thus injured by injudi-

cious tillage, farmers must have recourse to root-growing. Rotation of crops is the life of successful farming, and to have a really good rotation, roots must take their turn with other products. "Yet," says an American writer, "with all the light shed on root culture abroad, our agricultural newspapers contain every season accounts of some man's little experiment with half an acre of roots, and the wonderful profit therefrom; and to-day, any man who has two acres in roots is a wonder to his neighbors. The wisecrackers dubiously shake their heads, while Englishmen have their 300 acres of roots." This is doubtless too true of many neighborhoods in Canada as well as in the United States; but there are large sections of the country where the truth on this subject is beginning to be thoroughly understood, and the culture of root-crops is taking its proper place in the arrangements of the farm.

Turnips, mangolds, and carrots, are the leading crops of the root kind which it is desirable to grow. While the two latter are valuable products, and well deserving of the farmer's attention, the turnip is especially worthy of culture. Its hardness, its feeding properties, the readiness with which it may be kept through the winter, and particularly the time for sowing and harvesting it, are strong recommendations of it. Spring is a very hurried season in this country; but turnips do not require to be sown until the labors of spring are finished. This gives breathing time, and affords opportunity to prepare the land thoroughly—a very necessary point. Then again in the fall, which is only second to spring in the pressing nature of its duties, the pulling and housing of the turnips may be deferred until every other crop is secured. From the fact that seed-time for the turnip is late, the excuse is often made for not sowing, "My ground is all full." This is seldom strictly true. There is usually some neglected corner on the farm—a bit of summer fallow, which could soon be got ready, or some little clearance near the bush, which could easily be burnt off and cleared up for a turnip patch; or the barnyard is far larger than necessary, the lane four times too wide, or space enough is wasted elsewhere sufficient to raise a supply of roots such as would greatly help to eke out the winter stock of hay, and keep the cattle in vastly better condition than they usually are. By bestowing attention to this matter, now that the work of the

year is still prospective, we hope to prevent the land being all devoted to other things. Let every one of our readers resolve to have a good-sized and well-tilled turnip field this year. Choose the mellowest piece of ground at command, pulverize it well by repeated plowings and harrowings, manure it thoroughly broadcast and in the row with well-rotted dung and bone-dust, obtain in time the best seed, sow it carefully, till and hoe the plants well, and not only will the crop amply reward your toil and outlay, but the ground will be left in such a state for a succeeding crop of grain, as will make you wish your entire farm were a turnip field.—*Id.*

DEEP CULTIVATION.



WENIY years ago, a prominent English agriculturist spoke of shallow ploughing as one of the principal curses of British agriculture, and the same writer in a recent communication to an English paper, says:—

"I am sorry to be obliged to state, that in my opinion, formed from observation, four inches (solid) is still the full average depth of the British agricultural pie-crust, in which plants are to grow whose roots would, if permitted, descend many feet."

We question if the "agricultural pie-crust" of Canada is any deeper on an average; and though it yields a large supply of food for man and beast, let it not be forgotten that there is something below the crust, which is capable of adding immensely to that supply. In point of fact, nearly every farmer in the country has a *second* farm of the possession of which he lives in total ignorance,—a new farm under the old one. Farms not only lie side by side, but in layers, and if the rage for broad acres could be displaced by a rage for deep acres, the amount of soil under cultivation might soon be doubled.

The objects of ploughing are chiefly these: to pulverize the soil so that the air can get into it, and the roots of plants find their way through it: to mingle the different portions of it as thoroughly as possible; to cover manure; to kill weeds; and to keep the surface open and fresh. By bringing fresh portions of earth to the surface, moisture is attracted from the air, and along with the moisture, various fertilizing gases are absorbed. By keeping the pores of the land, so to speak, open, this process goes on more thoroughly than

it can do if the surface is suffered to grow hard and stiff. Deep ploughing extends these benefits to a greater depth. It opens a larger proportion of the soil to the beneficial action of air and moisture, and furnishes a more roomy bed for plant roots, and a more capacious store-house for plant-food. It has, to some extent, the same effect as draining. It carries off more or less of the surface water, warms the soil, and renders it more easy of cultivation. Land thus tilled is not so soon exhausted. The roots of grain by penetrating farther take firmer hold, and the stalks are less liable to give way and lodge. It also saves labor. It is less work to raise thirty bushels of wheat from one acre than from two or three, to say nothing of the zest and pleasure connected with getting a large instead of a small yield. Deep culture is especially important in the growth of root crops. Those who have only a four-inch "pie-crust" to operate upon, have little idea of the size to which turnips, mangolds, carrots, &c., will attain, when they have ample scope in a rich soil. The Rev. Mr. Smith, of Lois Weedon, one of the most noted agriculturists of the present day, gets his rows of Swedes to "shake hands" by their leaves at five feet intervals. He ploughs back all his top soil, and having thus laid bare the poor subsoil, puts manure into it until topsoil and subsoil are alike rich. Dr. Dixon, of Rivenhall, once pulled up a parsnip with a vertical root 13 feet 6 inches long, besides a further piece left by its breaking off. This was in a bank of earth 20 feet deep, that fell over loosely when excavated. The roots of strawberry plants, grape-vines, &c., have been known to descend several feet in search of food and moisture. The exposure of a cold, barren subsoil to the action of the atmosphere without the addition of manure, will in due time, render it capable of producing a crop. How great then must be the advantage of both loosening it up and dressing it liberally with dung. Gardeners understand this. A four-inch "pie-crust" will not raise choice vegetables. Hence the land is trenched to the depth of a couple of feet, or at least double-spaded, and manure worked in at a rate that seems almost wasteful, and yet is the very best economy of land, labor, and money. Why should not the farm be as deeply tilled as the garden? The reply probably is, because of the expense. This objection would lie if we were confined to slow hand labor with

the spade. But the same result can be attained by the use of team and plough. These are inadmissible to gardens because of the limited space for turning and working, and also because there are trees, plants, walks, &c., that would be injured by this mode of culture. But in the open field, team and plough can get down as deeply as the spade. There are two modes by which greater depth of tillage can be attained. One is by deeper ploughing with an ordinary surface plough, and the other by the use of the subsoil plough. The surface plough driven deeper down, throws the subsoil to the top,—the subsoil plough follows in the furrow made by the other, and simply tears up and loosens the hard pan. It stirs and mixes up what is under the "pie-crust." The change from shallow to deep ploughing must be made gradually when it is accomplished with the common plough, put in more deeply, and manure sufficient to enrich what is thrown up from beneath, must be applied. An inch at a time may be taken until by successive deepening the plough can be driven to the depth of nine or ten inches. The subsoil plough, an implement almost unknown in this country, will effect a gradual deepening of the soil without throwing the broken hard-pan to the surface. By loosening the subsoil so that the air can penetrate it, and particles of manure work and wash down into it, it will soon improve and be assimilated to the topsoil. Stronger implements and heavier teams will be needed for the deeper cultivation we are urging, but the results in heavier crops will soon justify and reward the outlay. "A little farm well tilled" is better than a large one merely skimmed over, and every consideration enforces Poor Richard's maxim:—

"Plough deep while sluggards sleep."

The subject referred to in this article is of great practical importance. We have only touched upon a few of the points connected with it, but we trust the hints we have thrown out will awake thought and suggest improvement.—*Id.*

ROLLING PASTURE LANDS.

THE rolling of pasture lands is advisable in all cases where it is judiciously performed. The effect of the roller upon grass lands is beneficial, not merely from the fact that it smooths and consolidates the surface, but it protects the roots from the injurious effects

of drought, destroys and prevents the formation of ant-hills, and will often prove destructive to moles, as well as many other enemies to pasture lands. But in order to secure these beneficial results, the greatest caution should be exercised. On this subject Dr Wilson says:—"Rolling must be judiciously performed under suitable circumstances of the land, else it will bruise the herbage, damage the roots, close the pores of the soil, and, in general, do vastly more harm than good. It ought, if circumstances permit, to be performed about a fortnight before the field begins for the season to be depastured; and it ought never, in any circumstances, to be performed, except when the sward is quite dry, and when the soil, or the seats of the roots is sufficiently yielding to prevent the bruising of the leaves, on the rupture of the roots beneath the pressure of the roller. Sandy and semi-elastic soils may be rolled at any time when their sward is dry; but clay lands may be rolled advantageously, only when any little lumps or inequalities on their surface crumble with the pressure of the foot and are not flattened and consolidated, but enter softly and wholly into the combination with the surrounding soil. But whenever a sward is in the compact and tenacious condition, which is technically known as hide bound, rolling even under the most favorable circumstances, would injure rather than improve it, and scarifying must be practised instead, to loosen the surface, to give the roots new facilities for absorbing food and producing herbage, and, if thought desirable, to serve also as powerful precurrent aid to the beneficial operation of a top-dressing of manure."—*Culturist*.

CULTURE OF THE GRASSES.

NONE of the most important operations of the farm is the cultivation of the various grasses for pasture and hay. Grain, grass and roots comprise the means of keeping up, without exhausting of the soil, or loss of time by fallowing, a judicious and profitable rotation of crops. When land is in proper heart for producing heavy crops of the improved grasses, most other products will grow well upon it. A thorough discussion of this branch of agriculture is a larger task than we propose now to undertake; but as an important topic, to which we shall from time to time have occasion to advert, a few words in our first number seem to be appropriate. The management of the meadow

and pasture lands is a matter on which too many farmers bestow very little thought and attention, from the general prevalence of the idea that man has but a very small part to play in securing a good forage crop. It is usually regarded as almost wholly a question of wet or dry weather. If the spring be showery, a good growth of pasture and a large yield of hay are expected as matters of course; and if the spring be dry failure is looked upon as certain. Without now alluding to artificial irrigation as a remedy for drought, further than to say it is in many cases a very practicable expedient, and by no means the Utopian affair many think it, there are several ways in which the uncertainties that beset the grass crop may be lessened. Deep culture, judicious selection and admixture of seeds, top dressings of suitable manures both natural and artificial, care in admitting stock only at proper times, timely alternation with other crops, and culture of grass for green manure—are points upon which a great deal of thought and attention may and ought to be expended by every intelligent and prosperous tiller of the soil. Drainage is one of the best antidotes against the evil effects of drought. A meadow of pasture that is closely awarded over will bear continuous weather far better than one in which the dry grass is bunched or tufted; while top-dressing acts both as a mulch and a fertilizer. While we cannot wholly prevent those fluctuations in the grass crops, which discourage many from going largely into them, it is possible much more nearly than is generally supposed, to equalize the yield from year to year.

Care in the selection of suitable and clean seed, of good quality, is also a very important matter. Our farmers are pretty well acquainted with the merits of timothy and clover; but there are other grasses valuable to mix with these, and well suited to the soil and climate of Canada which are not much used in this country.—*C. Farmer*.

PREMIUM TURNIP CROPS.

The Hamilton and Wentworth Agricultural Society having offered prizes for the best four fields of turriips, of not less than two acres, the following award was made by the judges after due examination of the crops entered for competition:—The first prize was awarded to Thomas Stock, of East Flamboro', for a field of eight acres. The yield was twenty-five tons six cwt. and forty-five lbs. per acre. The second prize

was awarded to John Weir, of West Flamboro', also for a field of eight acres. The yield was twenty-five tons, no owt. and eighty-five pounds. The third prize was awarded to W. A. Cooley, of Ancaster, for a field of five acres of Purple-top Swedes.

Yield, twenty tons, eighteen hundred and ninety-five pounds per acre. The fourth prize was awarded to John Kelly, of Ancaster, for two acres of Skirving's and Laing's Swedes. Yield, twenty tons, fifteen cwt. and ten pounds per acre.

BREEDERS' DEPARTMENT.

BREEDING OF HORSES.



THE *Suffolk Punch* appears to be a good type for improving our ordinary race of agricultural horses. He is a decided favorite in several of the Eastern Counties of England. Being of medium size, compact, thick, and "punchy" in appearance, good step, and exceedingly muscular and enduring, he could not fail, when judiciously used, to get a progeny possessing many desirable qualities, and adapted to the wants of farmers in this country. A stallion of this breed has been in use for several years in Guelph, Woodstock, and subsequently in some places west of the latter, that has produced stock, we have been informed, of a very desirable character. It is often observed that short-legged, firm, compact horses, do their work better, and last longer than larger ones, particularly if they have a clean, flat bone and plenty of muscle. It often happens that cart horses of great height and weight have round bones; but round-boned horses of any breed, are often gummy, and are apt to get greasy; besides which, it indicates softness. For these among other reasons, the Suffolk is deserving a more extensive trial in this country.

The *Cleveland Bay* may be classed among the lighter breeds of draught horses, and forms a distinct species. Their colour and general points are very uniform; of a large size, 16 hands and upwards; colour bright bay, as the name indicates, with black legs; good points, symmetry and substance; strong clean bone, and full of muscle; good action; head and neck well set on; and, on the whole, what are considered in the old country a most useful breed of horses for farm work; while on the lighter and best shaped are much sought after for carriage purposes, and always command high prices. The Cleveland is not so well known on this side of the Atlantic as its many excellent merits deserve.

Among the most valuable breeds of

draught horses, unquestionably ranks the *Clydesdale*, which is well known and appreciated in several districts of Canada, although there is reason to think that we have not at present so many good specimens derived from this celebrated breed, as we had a few years since. This animal is the one almost exclusively used for farm work in Scotland; and we shall never forget the splendid collection of this breed, which we saw at the Highland Society's Show at Dumfries, a few years since. Their general characteristics are short legs, and strong thick, and compactly-formed bodies; a fine head; well set on neck; wide expanded nostrils, full chest; well-laid back shoulders; deep from shoulder to breast; round well formed ribs; short back; strong loins, with short couplings; long well-formed hind-quarters; round well-turned hips; tail well set on; strong hocks and flat bones; sound good feet; heavy legs and full of muscle; color black, brown, or grey. It is sometimes objected that this breed, like some of the English, is too heavy for the use of Canadian farmers; a question by no means finally settled, and deserving the best consideration.

The *Canadian Horse* is mainly of French descent, and possesses several excellent qualities. He is long-lived, easily kept, exceedingly hardy, and of sufficient size, makes a good draft and farm horse, admirably adapted for all work. In general the French Canadian is too light for many kinds of farm work, especially upon the heavier soils, the efficient cultivation of which requires animals of more weight and power. This breed in many parts of Canada has lost by a continued series of crossings many of its original characteristics, and in some instances, the change is of doubtful utility. It may still be found in its original purity in the neighborhoods of Three Rivers, Quebec, and places eastward.

A breed of horses known as *The Morgan*, originated in the New England States more

than half a century ago, has obtained great favor in many parts of the American Union. He has gained much celebrity as a buggy and saddle horse, and has been highly approved by some for farm purposes on the lighter classes of soils. Others on the contrary do not regard the Morgan as a pure and distinct breed, and assert that it is often wanting in muscle, weight and bottom for the most important labors of the road or the field. At Agricultural Exhibitions, which in the States have of late years strongly tended towards racing, the Morgan is much admired for his graceful action and trotting qualifications.

Our farmers would do well to bear in mind when considering the different breeds most suitable to farm work that as their farms get older, the soil becomes more consolidated and consequently heavier, requiring greater animal strength to cultivate. The fact is also worth remembering, that an advancing agriculture demands, a greater depth of ploughing than has hitherto been the practice; conditions that can only be met by better constructed implements, and stronger animals to propel them. It is also a question worthy of a dispassionate consideration, whether the different qualities necessary to make up a good carriage and plough horse can never be found in the same animal.

CURING A KICKING COW.



MONG the early purchases, and among the animals that promised well, was a dun cow, which it was found necessary, after a few weeks of full feeding, to cumber with a complicated piece of neck furniture, to forbid her filching surreptitiously what properly belonged to the pail. Self-milkers are not profitable. I have faith in the doctrine of rotation, and the quick reconversion of farm products into the elements of new growth. But here was a case of reconversion so rapid as to be fatal to all the laws of economy. It suggested nothing so strongly as that rapid issue of government money, which finds immediate absorption among the government officials. Does the government really milk itself? and can no preventative be found in the way of neck machinery, or other?

Another animal was admirable in every point of view; I found her upon one of the North River wharves, and the perfect outline of her form and high-bred action, in-

duced a purchase, even at a long figure; but the beast proved an inveterate kicker.

The books recommended gentleness for the cure of this propensity; so does humanity; I concurred with both, in suggesting that treatment to Patrick.

"Gentle is it? And bedad, sir, she's too ould for a cure. I'm thinking we must tie her legs, sir; but if ye orders it, bedad it's meself can be gintle."

"Soh, Mooly—soh—(and a kick;)—soh, ye baste, (a little livelier,) soh, (and a kick)—soh, blast ye!—soh, Mooly—soh—Katy—SOH—(and a crash;) oca, you ould baste ye—take that!" and there is a thud of the milking stool in the ribs.

The "gintleness" of Patrick is unavailing. But the cow is an excellent animal, and not to be hastily discarded. Milker after milker undertook the conquest, but with no better success. The task became the measure of a man's long suffering disposition; some gave over and lost their tempers before the first trial was finished; others conjured down the spirit by all sorts of endearing epithets and tenderness, until the conquest seemed almost made, when suddenly pail, stool, and man would lapse together, and a stream of curses carry away all record of the kindness. We came back at last to Patrick's original suggestion—the legs must be tied. A short bit of thick rope passed round one foot and loosely knotted, then passed around the second and tied tightly in double knot, rendered her powerless. There was a slight struggle, but it was soon at an end; and she made no opposition to the removal of the thong, after the milking was over. With this simple provision, the trouble was all done away; and for a whole year matters went well. But after this there came a reformer into control of the dairy. The rope was barbarous; he didn't believe in such things; he had seen kicking cows before. A little firmness and gentleness would accomplish the object better; God didn't make cows' legs to be tied. The position was a humane one, if not logical. And the thong was discarded.

"Well, Patrick," said I, two days after, "how fares the cow?"

"And begorra, it's the same ould baste, sir."

A few days later I enquired again after the new regimen of gentleness and firmness.

"Begorra, said Patrick, "she's kicked him again."

A week passed, and I repeated the enquiries.

"Begorra, she's kicked him again!" screamed Patrick; "and it's a divil's own bating he's been giving the ould baste."

Sure enough, the poor cow was injured sadly; her milking days were over; and in a month she went to the butcher. And this advocate of gentleness and firmness was one of the warmest and most impassioned philanthropists I ever met with.

The moral of the story is—if a cow is an inveterate kicker, tie her legs with a gentle hand, or kill her. Beating will never cure, whether it come in successive thuds, or in an explosive outbreak of outrageous violence. I suspect the same ruling is applicable to agreat many disorderly members of society.—*Ik. Marvell.*

A VISIT TO MR. SNELL'S FARM.

SIR—Having seen in the first number of the *Canada Farmer*, a sketch of Mr. John Snell's herd of Durham Cattle, I was induced to pay a visit to that gentleman's premises, and have a look for myself; and permit me to suggest that it might possibly prove a stimulus to some of my fellow farmers in the better management of their own stock, to go and see for themselves.

Mr. Snell's farm consists of four hundred acres; three hundred and forty of which are under cultivation. Some years since he cultivated a larger quantity of land than he does at present. Then his attention was chiefly devoted to raising wheat, one hundred acres being the average quantity cultivated by him annually. Although he still continues to raise pretty large crops of wheat, yet it only occupies a secondary place now, while that of breeding, feeding and raising stock holds a primary place in his economy of farming.

One of the principal things noticeable to a person visiting Mr. Snell's farmstead, is the large quantities of turnips stored up in commodious cellars, and turnip houses close to his sheep and cattle sheds. For several years past he has cultivated over twenty-five acres of turnips, producing an average yield of from eighteen to twenty thousand bushels annually.

The time will not be thrown away by farmers living at a distance, should they visit Mr. Snell's premises, and examine his stock. They will be kindly treated, and will doubtless leave with the impression, that there is such a thing as improving stock in Canada.—*Cor. Canada Farmer.*

MR. PRATT'S DAIRY FARM.

COLONEL PRATT, a very successful dairy farmer at Prattsville, Green County, in the State of New York, is in the habit of sending annually to the *Country Gentleman*, a statement of the product of his farm. He has just done so for the year 1863. Colonel Pratt's farm contains 365 acres, and the average number of cows during the dairying season of eight months was eighty. The following is Colonel Pratt's statement for 1863:—

	W Milk.	Pounds.	Gallons.
Whole product.....	362,871		46,731
Average per cow....	4,535		584
Average per day....	1,343		173
Average per day for each cow		16 7-10	2 1-10
Greatest average in one day per cow.		25.2	3.2
Butter.			
Whole product	17,976	pounds.	
Average per cow.....	224.7	do.	
Average per day.....	66.5	do.	
Average per day for each cow		13.3 ounces.	
Avg'e milk to 1 lb. butter, 20 1-10 lbs, or.....		10 3-10	qts.
Pork.			
Amount made.....	10,389	pounds.	
Average pork for each cow milked.....	129	do.	
Sales.			
Butter, at 27c. per lb.....	\$4,853.52		
Pork.....	571.39		
Calves.....	16.00		
Poultry.....	119.94		
Deacon skins.....	60.00		
			\$5,620.85
Expenses of working farm, over proceeds of same, not enumerated above, including \$700 for interest on invest't of \$10,000 in farm and stock.....			1,916.45
Net profit	\$3,704.40		
Amount realized for each cow :			
For butter sold	\$60.66		
For pork sold.....	7.14		
			\$67.80
Other Products.			
1,107 bus. of Corn in the ear from 8 1-4 acres.			
1,500 bus. of Carrots and Beets.			
139 loads of Pumpkins.			

80 tons of Hay.
100 bus. of Oats.
\$54.76 value of Honey sold and on hand.
\$74.00 value of new Hives of Bees' increase.

We would be very glad to receive a few such statements from some of our Canadian friends.—*Canada Farmer.*

FEED COWS WELL.

THE farmers in the dairy districts make a great mistake in not feeding their cows with richer food. If it requires twenty-five pounds of hay per day to keep a cow in a condition in which she can neither lay on fat nor give milk, it is evident that the butter and cheese which we get is derived from the food she eats over and above this twenty-five pounds necessary to keep her in a stationary condition. To feed only twenty-five pounds would manifestly be absurd. Twenty-five pounds of hay are required to keep the cow alone going, and if we feed another five pounds all the milk is derived from the five pounds' extra feed. You feed thirty pounds of hay per day, but it is only the five pounds that produces milk. Now do you not think it would be better to feed another extra five pounds, and get as much milk for it as you have from the first thirty pounds? But, you say, the cow's stomach will only hold thirty pounds of hay or straw. Very well, then take out a few pounds and supply the place with some richer food, such as pea or bean meal, mixed with a little corn meal or shorts. In this way you can get the cow to eat the other extra five pounds. You will get more and richer milk and more and better manure. When the cows have plenty of food their milk is richer in butter and cream, or curd, in the fall of the year than at any other season. Dr. Voelcker found the milk of a dairy in August contained 3 1-2 per cent. of butter and 3 of curd. In November the milk of the same cows contained 5 per cent. of butter and 5 1-2 of curd. One gallon of the November milk would make nearly twice as much saleable cheese as a gallon of the August milk. The great aim of dairy farmers should be, therefore, to provide the cows with a sufficiency of good food at this season of the year. I have never tried it but it strikes me that oats cut *while green* would make excellent fodder for milch cows. I know they are excellent for horses, and if a few peas are sown with the oats it is quite an improvement.—*Joseph Harris.*

TURNIPIY TASTE IN MILK.

THE unpleasant taste given to milk and butter when the cows are fed upon turnips, is effectually corrected by the use of a little common nitre, or saltpetre, but the common mode of using this preventive is not the best. It has been usual to put a lump of saltpetre into the milk-pail, but it sometimes happens that the nitre remains undissolved, and the milk retains the objectionable flavor. Instead of this, make a strong solution of saltpetre—say a pint of boiling water upon an ounce of saltpetre; when thoroughly dissolved, put it in a bottle and stand in a cool place. Before milking, put into the milk pail a spoonful of this solution, or more, according to the quantity of milk expected, and the turnip flavor will be entirely destroyed. It also, in a great degree, destroys the bad flavor given to butter by the yellow crowsfoot or buttercup. This has been tried in our family, and found serviceable.—*Country Gentleman.*

LARGE OXEN.

At the Smithfield Club Show the following were the measurements of the first-prize animals:—

	First prize ox Under three years.		First prize ox Over three years.	
	Girth.	Length.	Girth.	Length.
Devons.....	8 ft. 1 in.	4 ft. 8 in.	8 ft. 4 in.	4 ft. 10 in.
Hereford....	7 ft. 8 in.	4 ft. 9 in.	9 ft. 4 in.	5 ft. 6 in.
Short Horn..	8 ft. 6 in.	5 ft. 4 in.	9 ft. 1 in.	5 ft. 6 in.
Scotch Poled	9 ft. 8 in.	5 ft. 4 in.
Long Horn..	8 ft. 1 in.	5 ft. 1 in.

The Devons appear to be looking up.

BEAUTY IN STOCK.


Has no invariable standard. In the estimation of some it results from small bones and close, compact frames; while others consider that structure the most perfect, and therefore the most beautiful, which is best adapted to the use for which it is destined. With such, beauty is relative. It is not the same in an animal designed for the dairy or for work. The beauty of a milch cow is the result of her good qualities. Large Milkers are rarely cows that please the eye of any but a skilful judge. They are generally poor, since their food goes mainly to the production of milk.—*Jennings' Cattle and their Diseases.*

FEEDING OATS TO HORSES.

A correspondent of the *Rural Register* gives his experience as follows, on feeding horses. He says:—"the same quantity of oats given a horse produces different effects according to the time they are admin-

istered. There is, decidedly a great advantage in giving horses water before corn, and an injury in giving water after corn. There is a bad habit prevalent, namely, that of giving corn and hay on their return to the stable after hard work. Being very hungry, they devour it eagerly and do not masticate; the consequence is, it is not so well digested. When a horse returns from work, perspiring and out of breath, he should be allowed to rest for a time, then give a little hay, a half an hour afterward water, then oats. By this plan water may be given without risk of cold.

NEGLECT OF CATTLE IN WINTER.


HE Maine Board of Agriculture forcibly remarks on the above subject:—"A good-sized one-year-old, in usual flesh at the commencement of winter, will weigh about 600 pounds, a four or five year old ox, 1,500 pounds. It is not so uncommon as it ought to be for them to fall off during the winter, from one-fourth to one-third in weight, for want of proper food and shelter. The result is the owner has lost on the year-old 200 pounds, and on the ox 500 pounds of beef during the winter, which is worth in the one case \$8, and in the other \$20. The animals have really consumed one-third of themselves to carry them through the winter. Often our neat cattle are fed in the winter on beef and tallow, sheep on mutton, hogs on pork and lard, horses on horse-flesh—all expensive articles of food, compared with hay, grain, and the various root crops."

BEST CLIMATE FOR SHEEP.


Sheep can stand cold weather without injury if it is *dry*. Sudden changes and cold rains are very injurious. We believe sheep require shelter quite as much in the South-west as at the North. The weather is not as cold, but is more changeable, and the sheep frequently get thoroughly soaked to the skin. In this condition, a cold, raw wind and a damp soil can not help but carry off much of the heat which is necessary to the well-being of the sheep. The natural heat of the body of sheep (105°) is much higher than that of horses and cattle. This heat is kept up by the consumption of food (or burning of fuel) in the lungs, etc., of the animal. To prevent this heat from flying off, the sheep are provided with a good warm coat of wool. To be effectual, however, the coat must be kept dry. In a

cold, dry climate, if the wool gets a little wet on the outside it is soon frozen, and this acts as a coat of mail, with a good warm lining of dry wool inside, so that the heat from the warm body within does not fly off. It is said that the Scotch Highlanders, in olden times, when exposed during frosty nights, wet their plaids before lying down to sleep, and by holding them a short time from their bodies they were frozen in a stiff hard board, sufficiently thick and impervious to defend them from the cold. The slight coat of frozen wool acts in the same way. But in wet weather there is no such protection, and so it is that you will find it equally important to provide shelter in the warm, but wet and changeable climate of the South-western States.—*Am. Stock Journal*.

IMPORTED STOCK.

HE Quebec Agricultural Society has recently brought out from England the Short-horn bull, "Sweetmeat," roan, calved in 1861; bred by Mr. Robinson, of Clifton Pastures, England; got by Duke of Leinster, (17724)—dam Sweetheart 2d y Earl of Dublin, (10178) &c., being a direct descendant of the famous cow "sylph." Also the thorough-bred horse "Canwell," by Stockwell out of May Bell; bred by Lord Northport. By last accounts from England, Stockwell was standing for £100 a mare.

IMPORTED CLYDESDALE STALLION.

FINE stallion has been recently imported from Scotland by Mr. Andrew Harvie, who resides in the neighborhood of Galt. Mr. Harvie bought him last summer, from Wm. Kirkwood, Esq., of Shankston farm, Patna, Ayrshire, Scotland, after a thorough inspection of some of the finest specimens of horse flesh to be found in that or adjoining districts. He is of the Clydesdale breed, was got by Sir Charles Napier, who was purchased for the Australian market at a handsome price, his dam being a superior brood mare in Mr. Kirkwood's possession. His height is 16 hands 1 inch—he is only 3 years old. His color is dark brown, slightly dappled, and he possesses extraordinary bone, powerful muscle, and good action.

A good, soft, dry bed is an important item towards the thrift of animals. It assists them in keeping warm, saves food, and inclines to rest and quietude.

ENGINEERING DEPARTMENT.

CANADIAN FARM ARCHITECTURE.



ARCHITECTURE is perhaps a complimentary word when used in reference to most of the structures which have been erected upon the farms of Canada. There are not

wanting here and there excellent farm residences which, in accommodation, form, proportion, picturesqueness, color, light and shade, are all that can be desired; together with out-buildings in admirable keeping, and marked by convenience, spaciousness,

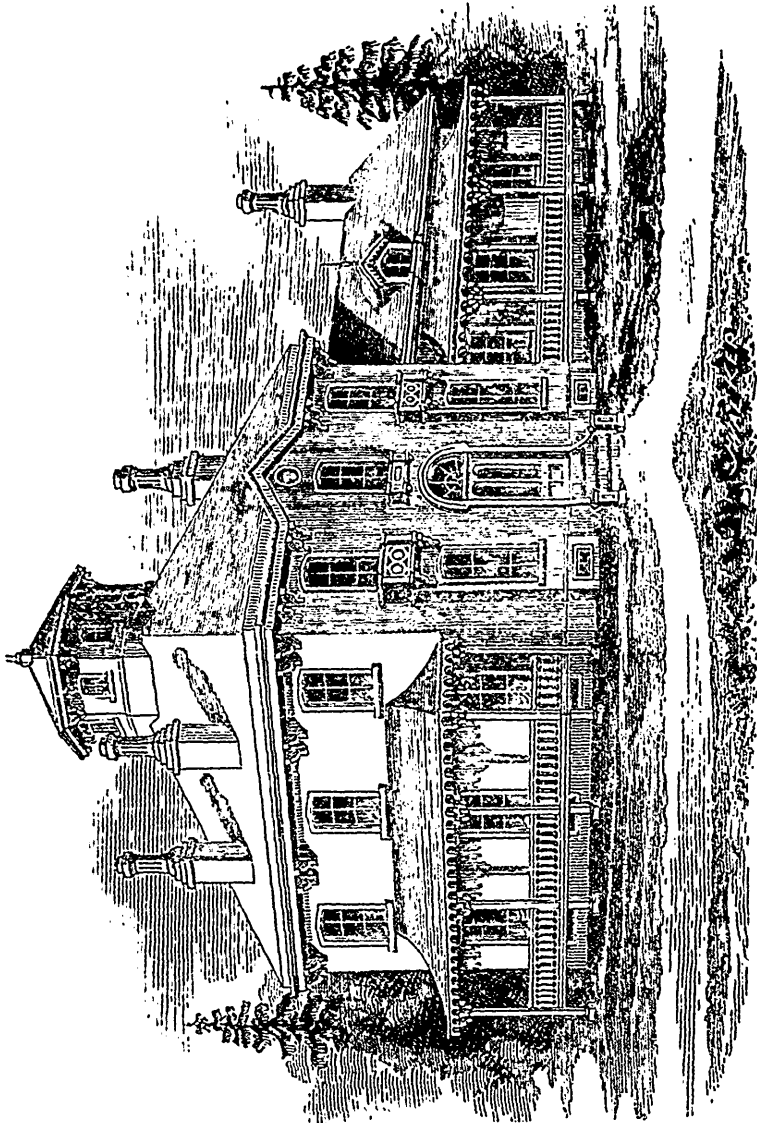


Figure 1.—Perspective view of a Canadian Cottage at St. Eustache, County of two Mountains.

neatness. But, as might be expected in a comparatively new country, it is the few, and not the many, of which this can be said; while the style of building in general

is such as leaves vast room for improvement. A well-planned, harmonious, agreeable-looking edifice costs no more than an unsightly, ill-planned one; nay, there are

often large sums expended in unsuitable and tawdry ornament, which would have been much better turned to useful account. It is rather a matter of study *before* building than additional cost *in* building which makes the difference between the pleasing and ungainly in architecture. Want of a true appreciation of the beautiful has, no doubt, much to do with the evil under consideration. But taste needs educating, and the misfortune is that so many set themselves up as educators of it who have yet to learn its first principles themselves. As to the result, many of our more costly buildings consist of monotonous, common-place work, loaded with attempts at decoration and ornament; while the most important

and self-evident rules of architecture are often glaringly violated.

To guard against these and other mistakes, those who intend to build should go about the matter deliberately, and avail themselves of all accessible helps, such as consultation with those who have had experience in the matter, study of one or more of the many excellent and cheap works on the subject of rural architecture, inspection of buildings already erected, &c. In most cases, if the contemplated structure be of considerable size and cost, it will be well to call in the aid of a thoroughly-competent architect. If he be properly qualified for his business, his fees for the elevation, plans, specifications, and, if need be, superinten-

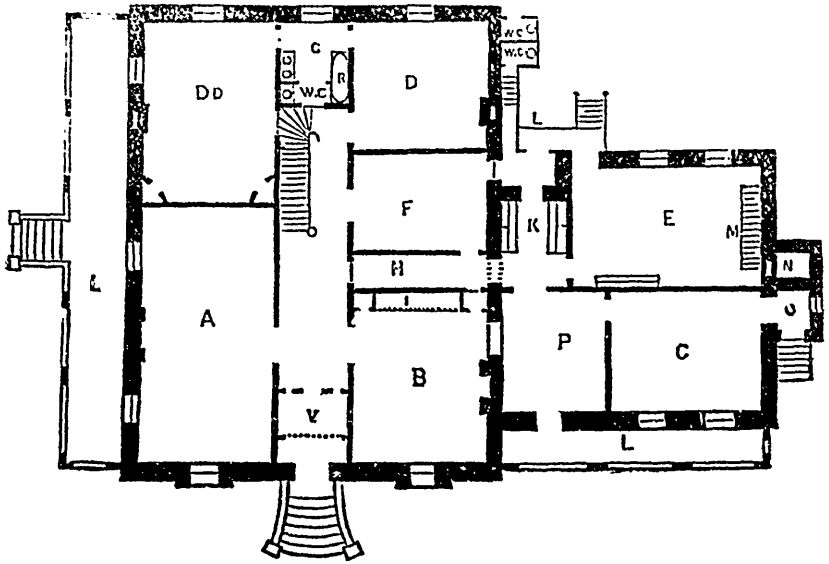


Figure No. 2.—Plan of the first story.

dence, will be more than saved in the avoidance of unnecessary expense, to say nothing of the satisfaction resulting from having a job done that will bear criticism. The maxims of a correct taste are not arbitrary. Wherever there is truthfulness, harmony, naturalness in architecture, universal admiration and pleasure will be excited.

Let no one dismiss this subject with the reflection that since his means are small, and the buildings he thinks of erecting humble in character, and limited in accommodation, all that has been said is inapplicable to him. A log-house may be built tastefully. A wood-shed, poultry-house, piggery, or dog-kennel even, may be even an ornament or an eye-sore.

We give several cuts of a very remarkable building, with the hope that some of our farmers will adopt these plans, which are well worth careful attention. The cottage Fig. 1, is the best for a farmer we have yet seen. The design, drawn by Mr. Perreault, architect, from Montreal, is both elegant and economical, recommending itself without further explanation. The interior distribution is, we believe, calculated to meet comfort and all the requirements of a farmer's home, from the cellar to the garret. Fig. 2 gives the plan of the first story. Coming through the principal entrance, the vestibule V leads us to the passage, having on the left the drawing room A, and on the right the dining room B, where we notice

an alcove I. Further in the passage we meet with two bedrooms, D and D D, both having access to the washing room C, where we notice a bath R, and other desirable fittings. Returning in the passage we have on the left the children's bed room F, and next to it a passage leading to the pantry K, on the left and to the breakfast room P, on the right through which we enter the office G. An office door O is quite necessary for any one having a certain amount of business. The kitchen E has a private door, an oven N, and a staircase M, leading to the servant's bed rooms.

A wide staircase in the main passage leads to the second story, Fig. No. 3, occupied mainly with bed rooms D D D D with the exception of the billiard room A, which can be used as a ball room. O is a

stair case to the belvedere, where an excellent view can be had of the neighboring scenery for several miles off. A washing room E. is to be found on the second story. The passage F. leads to the garret B. next to the servants room H.

The cellar, Fig. No. 4, is admirably constructed for the storing of root crops. The main door B allows the carts in the different parts of the cellar A A A A. A good system of ventilation is obtained by the chimneys opening from the cellar. Two stair-cases F and C communicate with the first flat. D is a reservoir of rain water supplying the kitchen by a pump.

By the publication of occasional articles engravings, plans, &c., we hope to do some what toward improving the style of rural architecture in Canada.

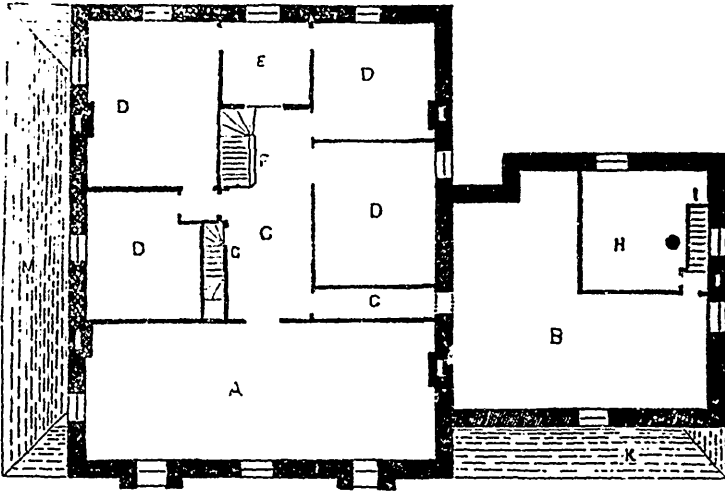


Figure No. 3.—Plan of the second story.

MEASURING THE CONTENTS OF GRANARIES.

IF EITHER of the following plans may be adopted with advantage in estimating the contents of granaries: All granaries should have a scale marked on the side, so as to show the number of bushels contained at any height.—The required contents of a granary may be estimated by figuring on the probable amount of grain crops, or the amount to be stored at any one time, and then allowing 2,150 cubic inches per bushel; or ascertain the number of cubic feet in the proposed granary, and multiply them by 45 and divide by 56, which will give the number of bushels.

A Correspondent to the *Agriculturist* communicates the following mode:

"A cubic foot is $\frac{1}{2} \frac{1}{3} \frac{3}{4} \frac{3}{4}$ of a bushel = 803. Three thousandths of a bushel is less than one-fifth of a pint; therefore to estimate a cubic foot as eight-tenths of a bushel, gives an error of less than one-fifth of a pint, which, in measuring a bin of ordinary size, would be of small account. By this estimate the capacity of any cubical vessel can be readily ascertained, by simply multiplying the number of cubic feet it contains by the decimal 8: Thus in a bin 8 feet long, 3 feet wide, and 6 feet high, $8 \times 3 \times 6 = 144$ cubic feet, which multiplied by 8 gives 115.2 bushels as the contents. The error

in this example amounts to less than half a bushel.—By fixing upon two dimensions of a box or bin, the other can be calculated so that the receptacle shall hold any required amount. For example, a bin is wanted to hold 250 bushels of grain. Suppose it to be 8 ft. long and 6 ft. high: what must be the width? $8 \times 6 = 48$, this multiplied by 8 = 38—that is one foot of the width of the bin will hold 38.4 bushels, and 250 divided by 38.4 gives 6.5 or $6\frac{1}{2}$ ft. as the required width. By carrying out the decimals, any required exactness may be attained.”

WASH FOR BARN.

There is no cheap substitute for oil-paint. All the different kinds of whitewashing are

incapable of shutting out moisture. The sides of buildings especially exposed to rains will lose a portion of any kind of wash by the combined action of frost and moisture. This exception we have made a trial with. A rough barn which received a coating four years ago, now retains most of it, although a considerable portion is scaled off on the most exposed side. This wash is made substantially as follows: one peck of fine beach-sand, three pecks of water-lime, and four quarts of salt. These proportions might vary without detriment—there should be as much sand as can be conveniently applied with a brush. A farm laborer applied this mixture early last summer to two rough barns, one about 30 by

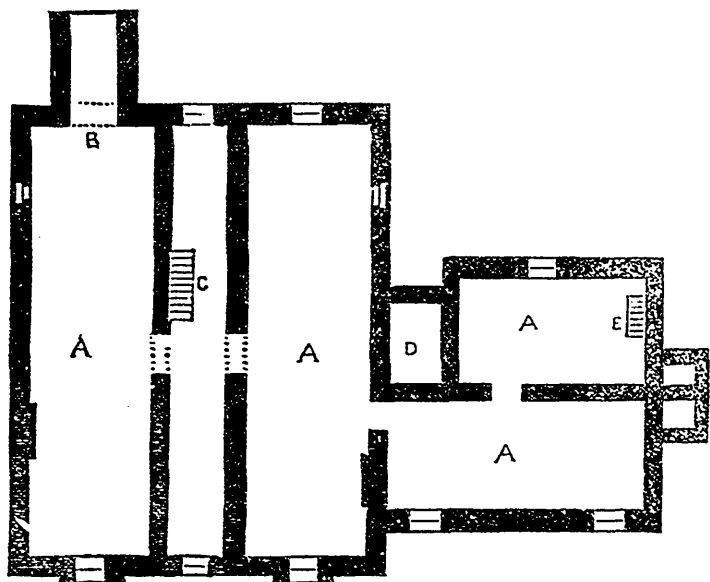


Figure No. 1.—Plan of the Cellar.

55 feet, the other 20 by 30, in three and a half days consuming two bushels of water lime, which was nearly the whole cost of material. This coating, now nearly one

year's standing, appears to be as good as the day it was put on. It will be perceived that the expense will only be about one-tenth the cost of a coat of paint.—*C. Gent.*

HORTICULTURAL DEPARTMENT.

WHEN TO PLANT FRUIT TREES—FALL OR SPRING.

THE Fruit Growers' Association addressed this inquiry to every Horticultural and Agricultural society in Upper Canada, besides sending it to many gentlemen interested in the

culture of fruit. About fifty replies were received, and the committee charged with the preparation of the report, state that not more than one-fourth of them were in favor of fall planting; a few expressed the opinion that the time *when* is not of as much importance as the manner *how*. A letter

was received from a gentleman who stated that he had for some time been engaged in selling trees, and had made large deliveries, both in the fall and spring; that on going over the ground the following season, he had invariably found on all soils that the trees planted in the spring succeeded best; and states, as the result of his observation, that the spring is the most favorable by at least twelve per cent. Some of the answers received recommend that trees should be procured in the fall, laid in by the heel during the winter, and planted out in the spring; others recommend the spring for stone fruit, while some again make it to depend upon the soil—preferring the spring if the soil be clay; on light soils, the fall. We prefer to set out in the spring; for the reason that the frosty winds, so prevalent during the winter, seem to dry up the trees when transplanted in the fall, thereby injuring and sometimes destroying their vitality. There can be no objection to taking up the tree in the fall and laying it in by the heel, if it be properly done, for in this way it is not exposed to wind and frost as much even as if left standing where it grew. It is often desirable to pursue this method in order to have the trees at hand, ready to be planted at any convenient time in the spring, and that we may obtain a better selection from the nurseries than sometimes it is possible to do in the spring.

HEDGE PLANTS—THE BERBERRY.

LINQUYRY is often made for a hedge plant that will endure our climate, and can be easily kept, and yet sufficiently strong to make a good fence. Many efforts have been made to introduce the English Hawthorn, but we know of no instance in which the attempt can be said to have succeeded. Other plants have been tried and among these the Osage Orange; which, whatever may be said of it in the South-Western United States, has been found too tender to endure this climate. The Honey Locust has also been tried, and any one who is desirous of seeing a hedge of this plant will be cheerfully welcomed at Mr. Beadle's residence near St. Catherines, where he can show him a field of twenty acres closed with it. But we have found this plant not easy manage and that it requires too great and expenditure.

There are too many, however, who think the Berberry will prove just to be what is wanted, and we now call attention to it in

the hope that those who have made any experiments with it, will give us all the benefit of their experience, and that the plant may be thoroughly tested for this purpose. It certainly seems to possess many very desirable qualities in a Hedge Plant, some of which we will enumerate. First then, it is perfectly hardy, never suffering at all from the most intense cold. Second, it does not sucker or sprout from the root; this we know from an experience of fifteen years with the plant in cultivated ground. Third, it sprouts every year from the crown, throwing up numerous strong shoots which serve to thicken the bottom of the hedge as it grows older. In most other plants there is a continual tendency to die out at the bottom; but the Berberry, on the contrary, is growing stronger at the bottom every year. Fourth, it will require very little trimming to keep it in place, its natural height being only seven or eight feet, and its habit of growth being quite compact. Fifth, the old wood does not die out, at least has not in fifteen years, so that with each succeeding year the whole fence is only becoming more dense and strong. Sixth, the bark is so bitter that mice will not eat it, and probably no other animal, and the plant is sufficiently thorny to make it unpleasant to break through. Seventh, it is very ornamental both when covered with its graceful pendant yellow flowers in summer, and in the autumn and all the winter when covered with its beautiful festoons of scarlet berries.

In planting a hedge of it we would recommend setting the plants in a single row, nine inches apart, and keeping the ground on each side clean and free from weeds for three or four years, after which it might no doubt be put down with grass if desired.

The English Hawthorn.

The following written by Mr. Vick, himself an Englishman, with a just and natural love for the trees and plants and plants so closely linked with early associations, will shew what may be expected of the Hawthorn as a hedge plant in Canada:—

"Very much rejoiced would we be to know that the *English Hawthorn*, the *Quickset* of the farmer, and the sweet *May Flower* of the merry children,—with its beautiful green foliage, its fragrant flowers, its bright red winter berries, its dense, living wall, could be grown as well in this country as in England, but for this we cannot hope. The Hawthorn seems perfectly

at home in the moist climate of England, flourishes in any spot where it has a chance to take root, makes perfect hedges, as secure against man or beast as a stone wall, and beautiful ornamental trees, to be found on every lawn. In this country the *Thorn* makes a beautiful, small tree and is somewhat planted, but not as extensively as its merit deserves. The White, Double White, Pink Flowering, Scarlet and Double Red varieties, are valuable small trees, which we recommend to every one planting shrubs or trees. But we have little hopes that it will succeed as a hedge, over a large extent of country. The borer attacks the plants and destroys many, and the *Aphis* injures the leaves, stops the growth, and by a little after midsummer, a Hawthorn hedge is a sorry sight indeed. Still, we know of some that do well."

The Buckthorn.

This plant is a native of Northern Europe, Asia, and North America, and as it is found growing wild in Siberia might naturally be expected to have, what we in fact find it to possess, a hardihood that will enable it to resist the most intense cold of our Canadian climate. Among its other very valuable qualities as a hedge plant, is the abundant supply of fibrous roots with which it is furnished, so that it is transplanted with the greatest ease, scarce one plant in five thousand failing to grow, and when once established it is very vigorous and thrifty. The leaves and bark are offensive to most insects, including the borer and *Aphis*; to cattle and to mice. The plants will thrive in all soils and in all situations, in moist and springy places or dry and sterile spots, under the shade of trees or in the full sunshine; they are not liable to disease, no plant will bear shearing better, and with proper treatment will make a dense and long lived fence. The Buckthorn has not what can properly be called thorns, but the ends of the shoots are hard and spinous, and the number of these spines increases with age and continued clipping.

In forming a hedge, the plants should be set in a double row, not opposite to each other, but alternate, a foot apart in the row and six inches between the rows, and cut back so as to stand not more than two inches above the ground. For the first three years the soil should be kept loose and free from weeds. The next Spring after planting the hedge should be cut back to within six inches of the ground, but after this a foot of each season's growth may be left at

each clipping until the hedge has attained the desired height.

Nothing is more ornamental on a farm than a live fence, and we hope that it will yet be seen that in the Buckthorn or Berry, one or both of them, we have a plant with which the Canadian may hedge himself about at a reasonable outlay, and in time to make our Canada homes and scenery as sweet and enticing as any of us have left on the other side of the Atlantic.

GROWING PLANTS IN ROOMS.



OUR former article was confined to the consideration of the *conditions* under which plants may be successfully grown in rooms, and we trust that some light was thrown on the subject. The mention of light, however, reminds us that we omitted to say anything about light; an omission which we will now supply. Light, the warm, vivifying light of the sun, is so necessary to the health of plants, that nothing will compensate for its absence. No plant that is grown in a room can receive too much of it. Let it stream in, therefore, through every pane, unobstructed by curtain or blind, that it may revel among the plants to which it gives life and beauty.

Some windows, of course, are better than others. The best of all is that which faces the south, since it receives the sun longest. The next best is that which faces the southeast or east. The next, west; and the least desirable of all is one that faces the north. The larger the window, the better. It should not be under a piazza or verandah, or the plants will inevitably grow spindly and weak. If in the city a window on the second or third floor is better than one on the first, since it will receive more light. A bay is the best of all windows, as it is the lightest of all. A bay indeed may be inclosed so as to form a receptacle for plants but little inferior to a green-house. We wonder that this is not often done. A moist air would thus be obtained for the plants, and the sun would thus be obtained for the plants, and the sun would ordinarily furnish sufficient heat. When this was not the case, and especially at night, the inclosing sashes or doors might be thrown open, and the plants would receive the warmth of the room. Outside shutters or blinds would be very desirable, to be used at night. We may illustrate a bay of this kind hereafter. Of

whatever kind the window may be, provide for and admit all the light that is possible.

Let us now pass to the second cause of failure, improper selection of plants. This has more to do with the want of success in growing plants in rooms, than is generally supposed. It is not to be expected that an inexperienced person should be able to make a judicious selection of plants for this purpose; neither is it to be expected that the florist should always be right in his recommendations; in fact, he is sometimes wrong, though his knowledge will enable him to say rather what will not do than what will. Of the many lists of plants that we have seen recommended for rooms, very few indeed are free from serious objection. This arises chiefly from the fact that these lists have been mostly prepared by persons who have had no experience in the room culture of the plants they recommend; We do not say this of all, because we know better. If we could command in a room the same conditions that obtain in a greenhouse, it would be safe to recommend the same plants for both; but these conditions are by no means the same in both; and that all plants do not succeed equally well in both is a fact within the experience of every man and woman who has ever grown plants in a room. At the time we grew plants in a room, we went through the whole catalogue of plants, and may therefore be supposed to know something about them. We mention this fact, simply that the reader may understand why we speak so confidently.

We now propose to present a brief list of plants which we know to be well adapted to room culture. It will comprise only those which we have grown well and with comparative ease, but most of which we have seen others grow well under similar conditions. It may be stated in general terms, that plants that require a very humid atmosphere, such, for instance, as *Caladiums*, *Begonias*, (the *Rex* family,) *Marantas*, &c., will do well in rooms, except they are inclosed in a case; while, on the other hand, those that delight in a warm, dry air, such as *Cacti*, *Mammillaria*, &c., do finely. There is a class of plants that come in between these, that also do well. The *Camellia* is often recommended as a good room plant; but it is by no means such, being grown there with the utmost difficulty. We have seldom or never seen a well grown *Camellia* in a room.

We think we shall place at the head of the list, in view of the large satisfaction it yields, the *Azalea*, one of the gayest and most beautiful of flowers. All the *Cacti*, *Epiphyllums*, *Mammillaria*, *aloes*, &c., do well in rooms. All are singular in their forms and growth, and many produce large and brilliant flowers. In this class is included the night-blooming *Cereus*. The *Calla* is also a good room plant, and so is the *Hyacinth*, *Crocus*, *Narcissus*, *Tulip*, *Ixia*, *Babiana*, *Oxalis*, *Lachenalia*, and most other bulbs, not forgetting the *Cyclamen*, one of the best of them all. Here, too, must be placed the *Laurustinus*, and also, but not quite so good, the *Pittosporum*. Better than the last, but much neglected, is the *Coronilla*, with its pretty yellow, pea-like blossoms. The *Heliotrope* does very well near the light, and is indispensable for its grateful fragrance. So, also, is the *Daphne*, but it is not so easily grown. And while among the fragrant flowers we must not forget the *Gardenia*, *Orange*, *Lemon*, *Magnolia fuscata*, and *Carnation*. The *Scarlet* and sweet-scented *Geraniums* are nice room plants, and easy to grow, but the *Palergonium* is not. The latter may be flowered after a manner; but a small truss of bloom on a long, spindly shoot is far from attractive. Just here very naturally come in the *Cuphea* and *Bouvardia*, the former an admirable room plant of the easiest culture. Alike beautiful and easy to manage is the *Chinese Primrose*. Its proper place is the front of the table, where its white and purple flowers will cheer us all winter long. For the back of the table we can have *Abutilon striatum*, a tall growing plant, with large pendent flowers. For the middle position, nothing is better than the *Chorozema*, with its handsome pea-like flowers. The *bridal Rose* (*Rubus*) is another desirable plant, resembling a *Raspberry*, with double white flowers.

A few climbers will be needed, and these may be found in *Passiflora coerulea*, a singular and beautiful flower, the best of its class for a room. The *Wax Plant*, (*Hoya*), a curious, but by no means sweet-scented flower. We may also add *Maurandia Baxlayana*, with showy tubular flowers of a bluish white color. The *Kennedy* *Marryatta*, with scarlet, pea-like flowers, also does very well.

But a collection of plants would hardly be perfect without the *Rose*. Fortunately there are a few that do well in rooms. These may be mostly found among the *Tea*

Roses, such as Goubalt, Bougere, Leveson, Gower, and others. Of Bourbon and China Roses, Hermosa, Malmaison, Queen, Phoenix, Daily, and Agrippina, are the best, and bloom finely. The Hybrid Perpetuals do not grow very well in rooms. The best that we have tried is old La Reine.

There are many annuals and biennials that do well; the following being some of the best: Mignonnette always a favorite for its delightful fragrance. Sweet Allysium, a sweet, modest little plant, with small white flowers, that smell like new honey. Lobelia, (*gracilis*, *erinus*, *speciosa*, *ramosa*, etc.) a charming room plant, producing masses of beautiful little blue flowers. Candytuft, (*Iberis*), a very desirable plant, with flowers from purple to white.

There are several hardy plants that bloom finely in pots, and are extensively used in this way by florists. They bloom nearly or quite as well in a room as they do in a green-house. *Spiræa prunifolia*, when in bloom, is a complete mass of white with its tiny double flowers. Not less beautiful is *Spiræa Reevesiana*, both the double and single. If the double flowering Dwarf Almond be placed between these, a very pleasing contrast is produced. The *Deutzia Gracilis* is a beautiful dwarf shrub, covered with handsome little white bell-shaped flowers. The *Diclytra spectabilis* is a charming herbaceous plant, resembling a Peony in growth, and bearing long racemes of singular but beautiful flowers, very inappropriately called by some, Bleeding Heart. There is also an old but little known plant, named *Daphne cneorum*, a small, low growing evergreen shrub, highly prized for the beauty and fragrance of its bright pink flowers.

We close the list for the present, though there are not a few other plants that may be added that are nearly, if not quite as good for room culture; but we do not think we should add more to the list of hardy shrubs, except it be the *Weigela rosea*.

MONTHLY OPERATIONS.

Cr. hard, Fruit Garden, &c.



NY preparatory work neglected last month should be attended to without further delay, especially for the destruction of insect-nests. Do whatever plowing may be needed as soon as the ground is dry, whether in orchard, vineyard, or

garden. Be careful not to cut up the roots of vines or fruit trees. Pruning should be finished at once, and vines uncovered and tied up. Vines may still be propagated from eyes, and cuttings may be put in the open ground. Grafting of fruit trees may now be done. When trees, vines, etc., are to be planted, get them in the ground as soon as possible. Uncover strawberry beds and make new ones when wanted. Three or four canes are enough to leave to each stool of blackberries or raspberries. Shorten in the laterals.

The Grapery.

From the middle to the latter part of the month, according to location, the borders of the cold grapery will need to be forked up and enriched when necessary. Do nothing, however, to excite the vines prematurely. Leave them slung to the side of the house till the buds are well broken, when they may be tied up. Keep the house warm and moist when the vines have started, and in ventilating see that no current of cold air blows directly upon them. In the hot grapery the first early crop will now be ripening, and the air may be kept a little drier. In later houses pinching in laterals, &c., should be attended to as directed last month. Ventilate with care so as to avoid sudden changes. Dust with lime and sulphur on the first appearance of mildew, or if there is reason to suspect its appearance. Thin out when needed, and do it while the berries are small. Do not allow any vine to carry more fruit than it is able to ripen thoroughly.

Green House.

More air should be given to harden off such plants as are to go out of doors. Azaleas will now be in their glory. Water regularly and abundantly. If any are to re-potted, do it as soon as they go out of bloom. Pinching to make a compact head or form specimen plants should be done while the new growth is quite succulent. Re-pot caladiums, begonias, gloxinias, achiemenes, and other dormant plants. Shift fuschias that need it, and give them plenty of room to grow. Pelargoniums should have plenty of light and room, and be watered regularly, or they are apt to drop their leaves. Hyacinths, &c., past bloom, may be put out of doors to make room for plants that are growing. Scarlet geraniums, verbenas, petunias, and other bedding plants, may still be propagated from cuttings in the early part of the month. So may also fuschias and carnations for late

blooming. Seeds of annuals and biennials may still be sown in pots. Insects must be looked after constantly, and plants generally kept clean and tidy, especially those that are to be turned into borders.

Plants in Rooms.

Air may now be freely admitted at the windows. Watering will need more attention. Give most water to plants in bloom. Even cacti, when in bloom, must be supplied abundantly. It must be understood, however, that a pot must never be set in a saucer, unless it contain some such plant as a calla. Toward the end of the month some plants, such as *Laurustinus*, *Pittesporum*, *Scarlet Geraniums*, &c., may be put out of doors, if desired, gradually exposing them to the sun. The directions of last month, in regard to seeds and cuttings, may still be followed.

Ornamental Grounds.

Drives and walks should be put in order and rolled. Rake off the lawn, if not already done. Trim edgings. Finish pruning shrubs, etc. Prune roses, and be not afraid of the knife. Do all planting early in the month. Dig up beds and borders, and enrich them when needed, but only moderately, except for roses. In addition to the usual bedding plants, provide a good

supply of colons *verschaffeltii*; there is nothing more attractive than a bed of this beautiful plant. Set the plants about eighteen inches apart. *Centaurea candidissima* well set up, makes a fine centre piece, and variegated *alyssum* a good edging.

Vegetable Garden.

This is a very busy month in the vegetable garden, and he who keeps up with his work now will not be likely to get behind during the rest of the year. Finish spreading manure, and spade up the soil deeply. Sow seed of onion, beet, carrot, parsnip, cabbage, cauliflower, celery, lettuce, peas, spinach, radish, and seeds generally; but do not sow corn, bush beans, Lima beans, cucumbers, melons, and similar plants, until the ground and the weather become settled and warm, except they are protected by hand glasses. Cabbage, cauliflower, lettuce, etc., may be transplanted from cold frames. Hot beds should be aired freely, and the plants hardened off and transplanted, keeping, cucumbers, melons, peppers, etc., till the last. Bean poles, pea brush, etc., should be got ready, if not already done. Fork over asparagus beds, and dig up the alleys. Sea-kale should be earthed up or covered with pots. Rhubarb is all the better for being blanched by covering with a barrel with both heads out.

DOMESTIC ECONOMY.

A WELL REGULATED FARMER'S HOUSEHOLD.

"Good husband without it is needful there be,
Good housewife within is as needful as he."

O wrote, two hundred years ago, Thomas Tusser, a noted farmer and poet, in a quaint old book entitled, "Five Hundreth Points of Good Husbandry, united to so many a Good Huswiferie." The lapse of time has not diminished a whit the truth of this homely couplet. The maxim, "if a man would succeed well in his livelihood, he must ask his wife," is more applicable, perhaps, to the farmer's calling than to any other. No matter how well things may be carried on out of doors, unless there be thrifty and judicious management within doors, all will go wrong. The exercise of skill, prudence, and good judgment on the part of the farmer's wife, is called for in a great variety of ways. The poultry are usually her charge. She must superintend or personally perform the operations of the

dairy. The flower-garden is also her sphere. Items of information concerning these matters will be found under their appropriate headings in this journal. But there is also the department of the household proper, which we cannot but regard as quite important enough to claim a distinct place. Bread-making, the realm of cookery, and the entire round of domestic economy, furnish a vast number of topics on which it will be our aim from time to time to furnish useful and valuable information. The farmer and his family should thoroughly understand, and if need require, as it does in most cases, be able themselves to perform the duties respectively of the farm and farm-house. There is a happy medium between unintelligent drudgery and genteel contempt for household work, at which the farmer's wife and daughters should aim. They should be equally at home in the spheres of labor, and of intelligence and taste.

Among Hone's works there is this rhymed advice to the agriculturists of 1722 :

Man, to the plow ;
Wife, to the cow ;
Girl, to the sow ;
Boy, to the mow ;
And your rents will be netted ;


These lines were happily travestied in the *Times* newspaper under the title of *The Farmer's Centenary Contrasted*, 1822 — in illustration of the causes of agricultural distress :

Man, tally-ho !
Miss, piano ;
Wife, silk and satin ;
Boy, Greek and Latin ;
And you'll be *Gazetted*.

The above rhymes exhibit the two extremes between which there is a golden mean, whose realization is the true conception of a well-regulated farmer's household. We should by no means deprive the miss of her music, the wife of her nice dresses, or the boy of his classics,— but to aspire to these in ignorance and neglect of the essential every-day duties of busy prosy life, were folly indeed. Henry Coleman, one of the most distinguished of agricultural writers, after describing a farmer's daughter perfectly at home in the accomplishments of the parlor, but deplorably ignorant of the manipulations of the kitchen, and unwilling to touch broom, scrubbing-brush, or wash-board—the vulgar things!—very well observes, that Lot's wife would be of more use as a help-meet to a young farmer than such a dressed-up doll,—“ for she could at least *salt his bacon*.”


The best legacy parents can leave their children is the knowledge and ability to help and take care of themselves. This is far better than a large fortune. In any circumstances, they will always have a couple of excellent servants ready to do their bidding, viz. : *their own two hands*. Ignorant incapables who need to be waited on, are indeed helpless and pitiable beings, easily disheartened at the troubles and difficulties of life, while the well-taught and self-reliant rise above them, and push forward to success.—*Canada Farmer*.

CARPET SWEEPING.

AKE a common wash-tub or some vessel large enough to admit a broom freely, and put in clean cold water to the depth of a foot or more. Then take a broom (one partly worn, so as to be a little stiff, is the best), dip it in six

inches or so, and hold over the tub, or go out of doors and knock off all the drops of water. This can be done most effectually by holding it in one hand and rapping it with the other on the broom corn above where it is wet. Commence brushing lightly at first, going over with it a second time, or more, and if your carpet is very dusty, do not sweep more than a square yard or two before dipping your broom into the water again ; this will rinse off all the particles of dust adhering to the broom. Rap off the drops of water, as before, and begin again ; continue to do so till the whole is cleaned. Should the water get very dirty before completing the room, it can be changed. One who has never tried the experiment will probably be surprised at the quantity of dirt which will be washed from the broom into the water. A carpet can be cleaned more effectually in this way than it can possibly be done with a dry broom, as the particles of dust adhere to the broom instead of rising to fall back on the carpet. There is no danger of injuring even a fancy carpet, if the drops of water are thoroughly removed from the broom. Let no one try this who has not time and patience.

A DARK HOUSE.

ARK house is always an unhealthy house, always an ill-aired house, always a dirty house. Want of light stops growth, and promotes scrofula, rickets, etc., among children. People lose their health in a dark house, and if they get ill they cannot get well again in it. Three out of many negligences and ignorances in managing the health of houses generally, I will here mention as specimens. First, that the female head in charge of any building does not think it necessary to visit every hole and corner of it every day. How can she expect that those under her will be more careful to maintain her house in a healthy condition than she who is in charge of it? Second, that it is not considered essential to air, to sun and clean rooms while uninhabited ; which is simply ignoring the first elementary notion of sanitary things, and laying the ground for all kinds of diseases. Third, that one window is considered enough to air a room. Don't imagine that if you who are in charge don't look to all these things yourself, those under you will be more careful than you are. It appears as if the part of the mistress was

to complain of her servants and to accept their excuses—not to show them how there need be no her complaints nor excuses made.—*Florence Nightingale.*

HOW TO MAKE GOOD COFFEE.



HICK as mud, muttered the husband of a shiftless wife who never made good coffee. "How is it that at C's and B's we always get such delicious coffee. Clear as amber, dashed with real cream, it is a dish fit for the gods, but this," and a wry mouth, made in expressive si-

lence finished the remark. His wife fretted, and made some peevish reply. Had we known the parties we could have told them how clear good coffee may always be had with little trouble or expense, thus, "To have good coffee it is best to buy a bag—if your purse be large enough—and roast it yourself as required. When ground beat it up well with a little cold water and white of egg (one egg will do ten minutes,) pour boiling water on it; then boil ten minutes; after which again pour in about a cup of hot water, and stand aside to settle for five minutes. In this way you cannot fail to have good coffee.

COMMERCIAL REVIEW.

THE AMERICAN CONFLICT: BY HORACE GREELEY.

The conflict between Freedom and Slavery, extending through the entire period of our National Independence, and culminating in the most gigantic and unjustifiable Rebellion on record, affords material of intense interest for the Historian's widest scope. But while the mutterings of the distant war-cloud, the open revolt, the uprising of the people, the march of hostile armies, the strife and carnage of battle with deeds of valor and heroic suffering, are portrayed with graphic skill, let us bear in mind that a Conflict of Opinions underlies the immediate cause of all civil commotions and upheavings of society, and in that stage of civilization to which Christendom has now attained, the conflict of the Battlefield will only reward a careful contemplation when considered in its connection with that progress of opinion which marks the great epochs of the World's History, and which alone can exert any decided or lasting influence on the progress and well being of mankind.

Human blood-hed, abstractly considered, is neither a pleasant nor a profitable theme. Only when it conduces to some great moral or social end—when it opens the doors of the prison-house, or sweeps away the slave pen, and the auction-block to make room for the printing-press and the common school—can it be regarded by the humane and considerate with grateful satisfaction.

In this History, the progress of Opinion, as exhibited in enactments, orders, and proclamations, not only prior to but during the War for the Union, will be carefully noted and recorded, with a fixed resolve to

do justice not only to the valor and fortitude, but to the motives and purposes, of those who resisted as well as of those who sustained the Republic in its arduous struggle for integrity and freedom. Those whose efforts flow naturally from their connections can afford to do justice to adversaries who also are impelled by convictions, however mi-taken; and it is believed that no partisan of the Rebellion, whether in the North or in the South, will have reason to complain of this work as lacking in candor or in generosity.

In addition to the special value of the work as a highly authentic record of the civil and military operations of this eventful era, the great feature which will distinguish this History of the War from all others, and give it a permanent value as a work of the highest authority for future reference, will be found in its presenting a deeper, broader, more exhaustive exhibit of the long train of causes which impelled to this bloody collision—the conflicting ideas which rendered it inevitable.

The publishers respectfully submit that no living American writer could more fitly assume this responsible task, or produce a more honest and truthful History of the Rebellion and its incitements, or one calculated to inspire more general interest among the great mass of the American people, and also throughout the European nations, than the eminent author of this work. His entire familiarity with the political history of the country, his exhaustless fund of statistical information, his acknowledged Leadership for a quarter of a century of the great American Anti-slavery Party, his independence, fearlessness and

unyielding integrity to his convictions as a Political Writer and Public Speaker, all contribute to guarantee this work to be one of no common interest, and insure an eager desire among both friends and opponents, to see and pursue the History of this Gigantic Struggle from the stand-point of the great American Journalist.

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• Opposite French Cathedral,
CORNER PLACE D'ARMES, MONTREAL.

The undersigned is prepared to supply Agricultural Societies and private parties with all kinds of Garden, Field and Flower seeds, at his usual low cash prices.

Having disposed of the whole of the stock of seeds remaining over from last year, at auction, I have pleasure in being able to guarantee every seed as perfectly fresh, and not as they are usually sold, mixed, the old and new together.

My assortment consists in part of
1,000 lbs. Large Red Onion Seed.
50 bushels Turnip Seeds, various kinds.
60 bushels Mangel Wurtzel, " "
100 bushels Clover Seed, comprising Vermont, Rawdon, Upper Canada, English and Dutch Short, and White Clover.
Timothy Seed, Carrots, Peas, Beans, Radish, Leek, Cabbage, Cauliflower, Cucumber, Melons, etc. etc.

Also,

Over 400 varieties of Flower Seeds
Send and get a Catalogue.

A. G. DAVIDSON, Druggist.
Successor to S. J. Lyman & Co.,
Corner Place d'Armes, Montreal.

Just received by Steamer Peruvian, direct from Vilmorin's of Paris, a selection of his newest and choicest Dahlia Bulb. They vary in prices from 50c. to \$1 each.

Choice Canada Grown Dahlias from \$3 doz.
Gladiolus, Japan Lilies, Tulips, Crocuses, and other bulbs in any quantity,

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Condition Powders for Horses, Sulphur, Brimstone, Nitre, Soda, Alum, Worm Lozenges, and all Patent Medicines at Low Prices to Country Dealers, at

A. G. DAVIDSON,
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