

PREPARED TO
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Tapestry, Brus-
carpets, Floor Oil
notice and very
PRAY. July

FACTORY.

eder of Galloway
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8
Breeder of Short
Pigs, Southdown
8
Importers and
8-ly
Breeder of South-
72-1-y
Importer & Breeder
and Merino Sheep
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72-1-y
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Wool Sheep. 1-y
P. O., Breeder
72

Breeder of Cots-
Sheep.
P. O. Importer and
Southdown Sheep and

eder of Short Horns,
Southdown and Lei-
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er of Short Horns
ly

of Ayrshire cattle,
Breeder of Berk-
12

t. Breeder of Essex,
d Cotswool Sheep.

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and breeder of Cots-
12

er and Breeder of
& Leicester Sheep,
m P. O. 12

P. O., importer and
Clydesdale Horses,
Sheep. 11-ly

manville, Importer
Devon Cattle
11-ly.

Breeder of Leices-
ter. 11-ly

Farm, Montreal,
Clydesdale Horses,
and Leicester Sheep.
11-ly

SE, Bellville, Breed-
shire Cattle. 11-ly

of Galloway Cattle.
11-ly.

er and Importer of
Essex, Southdown and
Berkshire Pigs.
Ontario. 11-ly

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Wool Sheep, improved
Horses. 11-ly

Breeder of Leicester
11-ly

, Breeder of Ayrshire
11-ly.

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ester and Cotswool
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the best Bull and five
Exhibition, Kingston,
11-ly.

dge Guelph, Importer
and Hereford Cattle,
Sheep, and Berkshire
11-ly.

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Lincoln and Leicester
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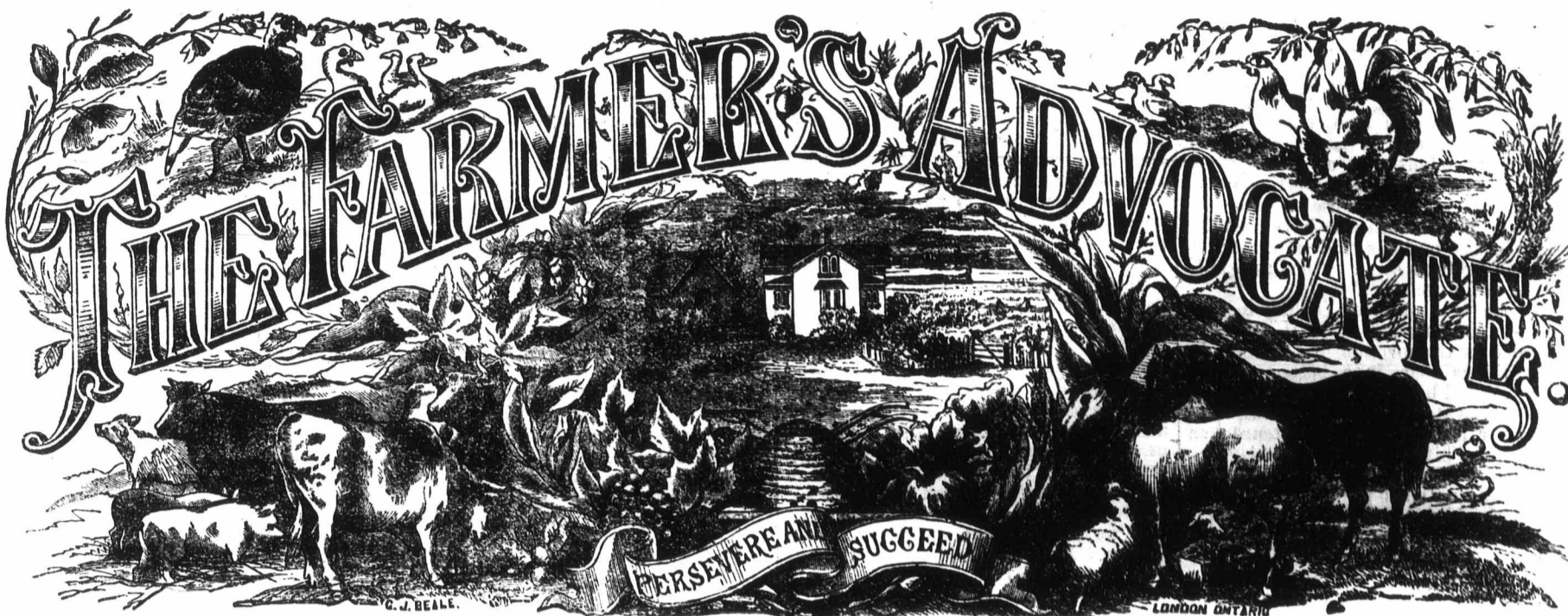
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Breeder of Short Horn
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instead, breeder of pure

ead, Breeder of Short
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VOL. VII. { WILLIAM WELD, Editor and Proprietor } LONDON, ONT., OCTOBER, 1872. { \$1 Per Annum, Postage Prepaid. } NO. 10. { Office—Dundas St., Opp. City Hotel. }

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The Importation of stock.

Since the publication of our last issue, we, on one of our journeys in quest of seed wheat, met the Hon. A. McKellar on the cars. We asked him if he had seen our recent remarks in regard to the Government importation of stock. He not being fully occupied, we explained to him our views and the danger of such a course—1st, on account of injury to our breeders; and 2nd, the great danger there now existed of bringing some of those fatal cattle diseases to our shores that are so prevalent in Europe.

Mr. McKellar said that George Brown considered the importation of stock would be advantageous.

We suggested to him the necessity of having a quarantine farm established for stock, or that the importation should be totally prohibited during the prevalence of the diseases in Great Britain. Mr. McKellar said he would give the subject consideration, and that his object would be to do what was considered the most advantageous for the country. He considered the breeding establishments as a kind of monopoly, and thought that the importation of stock by the Government would be beneficial, but the whole subject would be openly discussed in Parliament before anything would be done.

Apples, Cider and Vinegar.

We have in the western part of Canada probably the largest crop of apples ever raised. First-class quality of picked apples will command a good price if farmers will take care of them, hand-pick them, select nothing but prime, sound apples, and barrel and store in a cool place. The winter apples will be in demand. In most orchards there are large quantities that are only fit for fall use, and many more that are only fit for cider or vinegar. There are tens of thousands of dollars worth going to waste at the present time. Some negligent farmers turn their hogs and cattle into the orchard and imagine they are turning their apples to good account.

If they would make a large quantity of vinegar they might make money. At the present time we import large quantities of corn to make vinegar, while we might by using our sour apples make a better vinegar than we can now purchase.

If a company of farmers were to unite and store up thousands of barrels of cider, and manage it right, we believe that by bottling and advertising it, a very high price would be obtained for it when in its prime, and it can be kept in that state for any length of time. Many think they cannot afford a cider press.

A cider mill, if cared for, would last a

life-time, and the interest would only be \$2.80 per annum. How many thousand farmers are there in Canada that have lost or wasted enough apples to pay for a dozen cider mills.

Waste no more; it is only waste to feed them to stock, unless they are of the sweetest kinds, and even then they do not pay half as well as to manufacture them into cider. If you have a wagon load of apples that are going to be wasted, we would say, get a cider mill. It will pay you. We know of no better hand-mill than Mr. Sills' combined and improved mill and press.

The Mimico Farm.

In this issue we give reports of the Markham Agricultural Farmers' Club; we are pleased to notice the important discussions relative to agriculture which are to arise. We expect to give further reports from that society, and hope they may give the whole subject a proper and fair investigation.

It is the duty of Farmers' Clubs to enquire into our public agricultural affairs.—We sincerely hope that party political feelings will be barred while discussing this subject, and that the interests of agriculture may yet predominate above party strife. We are aware that it is a very great and apparently an unconquerable power to overcome. We have tried it for the past seven years, and have greater fears than ever that party politics must rule our agricultural affairs. We have still some hopes that there may yet be found sufficient societies or gentlemen to manage the public agricultural affairs of this Dominion, without being enchained or untrammelled by sects or party politics.

Flowers.

TO THE LADIES.

This season we have seen some of the finest Parrot Tulips we ever beheld. We were so much pleased with them that we determined, if possible, to procure some of the bulbs for you, because we are quite sure every one would admire them. We have sent to Holland to procure them; they will be here in time for planting this fall. We will present two of these bulbs to each one of you that obtain a new lady subscriber for 1873, and we shall also present the lady that subscribes with two bulbs. This is an inducement for this month. We hope to give the boys and girls some encouragement for getting subscribers during the fall and winter. Begin at once and you will have a chance for the prizes as soon as offered.]

The Government of Ontario vs. Individual Enterprise.

In the July issue of the FARMERS' ADVOCATE we spoke of the declared intention of members of the Government to become importers of farm stock, and we protested against such a measure. We now resume the subject, as we have reason to believe that they, listening to rash or interested advisers, still persist in their project.

Is the Government justified in entering into competition with individuals who have been and are successfully carrying on an enterprise tending to the prosperity of the country? We take up the question, not in interest of party, but of fair and honest dealing between man and man—of equity between a class of the community and those who have been raised by that community to a position of power and responsibility. We proceed to show that the action of the Government in pursuing such a course would be inconsistent with true principles of political economy, and with the plain details of honesty and honor.

They have no right to enter into competition with men who, first entering into this business at a great pecuniary risk, have been for years engaged in it, and have thereby conferred a great and permanent benefit on the country. That the ministry design to make a profit in the business is manifest from the arguments used in support of the measure by its advocates (see remarks of Hon. D. Reesor at meeting of Farmers' Club in Markham). Well may they who would fain depreciate the fair fame of our Dominion exclaim, Behold the Ontario Government become stock importers, to turn an honest barbee in the way of speculation! And this gain is to be at the expense of, and in competition with, Canadian importers, breeders and graziers!

'Tis true, they have, for the present, the power to carry out this ill-advised project; but there is a tribunal to which they are accountable for the proper use of that power, and no party can, with impunity, brave public opinion in this land of free thought and an untrammelled press.

This scheme would be bad policy as regards the State. It would be an extravagant outlay of public money without any reasonable prospect of adequate remuneration, notwithstanding the profits anticipated by its supporters. The fact that such an undertaking is not needed precludes any reasonable expectation of its being, in the hands of the government, a profitable, or even a non-losing speculation. But were it even a source of pecuniary profit, it would be unwise policy so to impede the well-doing of members of the nation, that the government of that

nation might directly do their business, and grasp the profit that they are now realizing. It would be a great wrong to individuals engaged in the business. The government might with as much justice interfere with merchants importing any or every article of merchandise as enter into competition with men who have been and are doing the business efficiently. Apologies and pretexts could be had as readily for one as for the other.

We can well conceive a country reduced to such circumstances that it would be desirable for the government to undertake many things that, in a better state of society, would be better left to the enterprise of private individuals. Thus, were the king of Dahomy more enlightened than his subjects, his introducing into his kingdom whatever would be conducive to civilization and national prosperity, would be rightly considered the beneficent act of a paternal government. Even in civilized countries, were there a want of means or of enterprise on the part of private citizens, and the government possessed of means independent of the people (a very improbable state of affairs, we admit), then it would be commendable in that government to procure for the people what would tend to the nation's progress, and they could not otherwise secure.

Is Ontario in such a state as to demand from her ministry such assistance, or rather, as the people do not ask for it, to justify the expenditure of public money in such an undertaking? Are they so backward in the progress of civilization that the government must enlighten them and teach them what is for their good? The very supposition would be self-contradictory. If they be unenlightened, so must be the members of their government, as it is but her creature. Are they individually so poor as to be, of themselves, unable to procure what is needed by them for the development of their resources? Were they so poor, so must be the public exchequer; it is the offering of their wealth for their country's wants.

Have the people of the Province been so inattentive to their own interests, neglecting the enriching of their country by the improvement of agriculture, the importation of the best farm stock, and the selection of the best agricultural seeds and implements, as to call for the helping hand of their government? The reply, even from the officials and organs of the government, must be an admission that the people are themselves efficiently doing the very work about to be done for them by the government. The Canadian importers and breeders of improved farm stock are not only able and willing to supply the demands of the country, but also the most enterprising agriculturists of the United States are fain to improve their stock from her herds. Of this, even our Minister of Agriculture cannot be ignorant. The great sales of such men as Miller and Snell must have attracted his attention. —As. T. Ed.

Seed Wheat.

The Agricultural Emporium has been the means of distributing a considerable quantity of Fall Wheat, the best in kind, and of the purest samples to be procured. The distribution has not been confined to one section of country, but has been far and wide throughout the province, and even in the neighbouring States. One means of testing and separating pure seeds, and of having always on hand a good stock such as we could desire, are barely sufficient for our undertaking. Merchants in grain and seeds would not embark in it, as there was no prospect of their realizing a remunerating profit. It would not do to undergo the great expense of procuring good and reliable grain for seed, and then to be obliged to sell at the market prices of ordinary market samples.

We have not spared expense or trouble to procure the best seed to be got; and though not at all times with the success we desired, yet as successfully as we could have anticipated—doing a business so im-

portant, and one requiring such close attention and ample means, unaided from any quarter. There have been some complaints of the quality of our seeds, but they have been very few. We will show two instances of such complaints. One person who was not a paying subscriber we accommodated by filling his order for grain. The order we punctually filled, and the grain shipped by our clerk. A letter came to hand from him threatening us with exposure, and everything dreadful, because the grain was two or three days longer in reaching him than he had expected. Another.—A large and wealthy farmer tried to make an awful fuss because he had found a few grains of cockle and chaff in some wheat he had got from us. And he has never yet raised a grain that we saw fit to be sent to the Emporium.

We acknowledge no fault in such cases. We tell you as we have always told you, that we send the best and purest we can procure. If the Emporium be not all we would devise it to be, the fault lies not with us. Farmers should make greater efforts to keep their grain pure and clean, but there is another party still far more to be blamed. The government of the province should have extended to the Agricultural Emporium good and substantial aid, and have thus enabled it to do better service than it has yet been able to, and to do all the good for which it was originated. —As. T. Ed.

The Austrian International Exhibition.

On the 1st day of May, 1873, will be inaugurated this great exhibition, that bids fair to be the greatest and most magnificent of the exhibitions held by the several nations. The notes of preparation have reached us from that distant country.—A beautiful park, said to be unsurpassed in Europe for its situation and adornments, is to be the scene of the exhibition. All that great wealth and refined taste can accomplish will be done to add to its attractions. The ancient Empire is determined not only not to be surpassed, but to surpass all others. The government has employed the most eminent artists and architects of the old world to construct the buildings and add to the beauty of the grounds. It is delightful to witness this generous rivalry of the nations, not in war, but arts and manufactures, in commerce and agriculture, in developing the industry and resources of kingdoms and peoples.—A very brief description of the preparations being made must suffice. Our space is limited, and we wish to put it to the best account:—

The building will be 350 meters long by 25 meters wide. A main gallery will intersect the entire edifice. This gallery will have cross galleries on each side, so placed as not to intercept the view. Between these and the main gallery lie garden courts which will also serve for exhibition purposes; and each country will have one or more of these galleries allotted to it, together with the portions of the garden-court adjacent. A spacious rotunda will run from the centre of the building, and divide the main gallery in the middle. It will have a diameter of 102 meters, and its height will be 75 meters. From the chief building covered galleries will lead to conservatories stocked with the choicest flowers, and to pavilions intended for the exhibition of horticulture, aquariums, aviaries, and other objects. A separate hall, nearly half a mile long and 150 feet wide, will be devoted to machinery in motion, diving apparatus, hydraulic machinery, and other objects.

This description of the exhibition building, from the Michigan Farmer, conveys a clear synopsis of the design and dimensions of the building. The adornment of the grounds and everything in connection with the exhibition are on an equally imperial scale. Rows of large horse chestnut trees have been planted along the avenue leading to the principal entrance. The grounds adjacent have been converted into pleasure grounds, with smooth lawns, flower beds, rich with the choicest flowers, umbrageous groves, fountains of classic design and artistic execution—all that can delight the senses. Large sums of money

will be given in prizes to exhibitors, and every endeavor will be made to render the awards of the judges of the various departments as just and impartial as they can possibly be.

All the nations of Europe are making every preparation to be well represented at this great exhibition of the products of the industry and civilization of the world. A commission, with the Prince of Wales at its head, has been appointed by the Queen of Great Britain, having special charge of the products and stores of British industry and of her colonies. The interests of Great Britain, including her colossal colonial Empire, will be well attended to. Their vast resources will form of themselves a magnificent exhibition. We hope, in the great display of the wealth of Britain, the resources of the Dominion will bear no little part. Her industry and natural wealth are second to none other of the colonies. It would be a grievous wrong were not her position at the exhibition among the first.

In the United States periodicals that are devoted to the industrial pursuits and prosperity of the country, there is a cry of regret and mortification that their country will be entirely unrepresented in this great International Exhibition. That government has not taken any steps in the matter, nor has Congress appropriated any money, that the resources and various industrial pursuits of their vast country may be represented. —As. T. Ed.

Deep or Shallow Ploughing.

This question seems to be far from being settled. In our agricultural exchanges we from time to time meet letters on the subject from correspondents, as their experience or their prejudice inclines them. Farmers, it must be confessed, are not, as a class, wholly unbiassed by prejudice.—What we have been accustomed to do and to see done seems to us just what should be done. If we have seen a method of tillage prove successful, we are apt to decide at once that such a method must always succeed. But we should bear in mind that a single instance of success in pursuing any method in agriculture is not sufficient to prove that the method is the best one. The success of the experiment may have proceeded partly, or in whole, from favorable circumstances, more than from the course pursued. Hence it is only after repeated trials and under a variety of circumstances that we can authoritatively pronounce any method or implement or variety of seed an entire success or failure.

A correspondent of a very valuable agricultural paper, the *Western Farmer*, induced by his success in raising a good crop of oats after a very light ploughing, is this year ploughing all his stubble land in the same manner, expecting equal success. Having ploughed a piece of wheat stubble 2½ inches deep in April, 1871, and sowed clover seed on it, and being disappointed in the growth of the clover, he determined the following spring to sow it with Norway oats. This he did on April 24th, sowing 14 bushels on five acres with a Morrison Seeder, and finishing off with a smoothing harrow and broadcast weeder, and "a sinner" (plank). The crop was harvested July 30. He expects 60 bushels per acre when threshed, had straw enough for 80 bushels, and thinks there would have been 100 bushels if there had been sufficient rain. He adds as follows:—

"Was it the early shallow ploughing and 'smearing' in hot, dry weather that produced such fertility? The average crop in this vicinity will be under 40 bushels. I am shallow ploughing all my stubble land this season, as soon as I get the grain stacked; and I intend to harrow it thoroughly sometime in September when the seeds have all germinated.—By sowing clean seed I can have clean crops, and my opinion is that they will be much larger than if ploughed deep in October."

The writer thus takes the result of one year's trial as proof positive that the system thus pursued must be the best and most profitable. It is more than probable that he will, after having given this matter the close attention he promises, greatly modify, if not entirely change his opinion. In shallow ploughing his stubble land as soon as he gets the crop stacked, he is, no doubt, doing a good thing; the seeds of weeds will, in consequence, germinate freely from the fresh turning of the soil and the autumn heat and showers; and also from the same operating causes, the stubbles will, by rotting, serve to enrich the ground. But this light tillage is not sufficient. Having shallow ploughed the ground as soon as the crop is up, were he in addition to plough it deep in October, it would then receive all the mellowing, enriching influence of the frost and snow; and, before sowing the seed, if found necessary, the use of the cultivator would bring it into the very best state of tilth. Some may object to this as involving so much labor, but let them bear in mind that labor, if judiciously expended, is sure to be abundantly remunerated. It is the greater labor and the more abundant manure that enable the farmers of Britain to raise so much larger crops than those of America. Let us, as far as in our power, have no inferior crops. A poor crop must be a losing one to the producer; a good one is sure to be profitable.

What, then, are the advantages from deep ploughing, or may it not be, as some say, rather injurious than otherwise, by turning underneath the surface soil that has been improved by the influence of the atmosphere, and the culture of the previous year? The reply is obvious. The plants, cereals, or whatever they may be, require food not merely from the three or four inches of surface; they should, by having the soil tilled to a sufficient depth, be enabled to draw their surplus of food from a depth of many inches. And the rain and heat from the sun's rays will, after the farmer has done his part, complete the process, so that every rootlet will have abundance of nourishing food to convey to the plant. In the culture of root crops this is essentially necessary, and for cereals deep, good culture is a means of imparting to the grain that plumpness and weight in which our grain is not equal to that of Britain, partly from the short time in which it arrives at maturity, and partly, also, from our lighter and less costly preparation of the soil. And in a season of unusual drought or of moisture, a deep, thorough culture will enable the crop to withstand the adverse circumstances.

It is true that if circumstances be peculiarly favorable, the farmer may chance to have a good crop, even though his culture be such as to lead us to expect the very reverse. But we must not in farming, more than in any other business, act, relying upon the chance of a *lucky hit*. I have known a good crop of oats grown where the ground was not even ploughed or tilled. In part of a field the oats lay flat on the ground from its great rankness, and consequently, as much lay shed on it after reaping as had been sowed on it as seed. The soil was damp as well as rich, and the oats, lying shed, grew, and being allowed to grow as it was till harvest, it yielded from the two acres it grew on over 80 bushels to the acre of good grain.—That crop, so profitable without tillage, did not induce the owner to plough to less depth, or till with less care in the future. —[This was in Europe.]

The experience of many years passed in farming has proved to me that deep ploughing should be the rule. But to this rule there are exceptions. If the surface of the soil be the best adapted for nourishing the young plant and bringing it to maturity, as after a previous manured crop, or after being some years fed on as a pasture, it would be unprofitable to turn that rich surface down deep. In new virgin soil the case is similar. In very sandy

soil deep ploughing is not the best, tending to make the soil more fertile. If the soil is very rich, it would not be well to bring it to the surface, as the atmosphere would soil it, and it has fertile.

But such in some cases should be regarded as a rule of deep ploughing, and authorities on their own experience should be taken on this subject.

Reports

ALONG THE

Through the officers we have is very interesting statistical information much interest as to bring a brief space, a this harvest man care and labor station, on each is a return. as to present country along returned.

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Fall Wheat.—

Spring Wheat,

Oats.—Yield

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Corn.—"Good

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soil deep ploughing may be injurious, as tending to make it less retentive of the nutritive elements of the manure in the sandy subsoil. If the subsoil be cold and unfit of itself for the nourishment of plants, it would not be well to plough so deep as to bring it to the surface, till, from the action of the atmosphere after having been subsoiled, it has become more mellow and fertile.

But such instances as these should only be regarded as exceptions to the "grand rule of deep ploughing. The highest authorities on agriculture agree with our own experience in the opinion we maintain on this subject.—Ass't Ed.

Reports of the Crops of 1872

ALONG THE LINE OF THE G.W.R.

Through the courtesy of the G. W. R. officers we have received this report. It is very interesting, containing a mine of statistical information. We read it with much interest, and have condensed it so as to bring before our readers, in a very brief space, a synopsis of the returns that this harvest makes to the farmer for his care and labor. From the vicinity of each station, on each branch of the line, there is a return. We so condense these returns as to present the average yield of the country along each of these stations, as returned.

The Main Line embraces 32 stations, with a separate report from each. The Toronto Branch embraces 6 stations; the Sarnia Branch, 4; the W. G. & B. Line, 14; from Brantford there is a separate report.

Fall Wheat.—Main Line, average yield nearly 22 bushels.
 Toronto Branch " 15
 W. G. & B. R. " 19½
 Sarnia Branch " 21
 Brantford " 10
 Spring Wheat, Main Line " 21½
 Toronto Branch nearly 17
 W. G. & B. R. yield 20½
 Sarnia Branch nearly 17
 Brantford yield 18
 Oats.—Yield along the line averages 30, 35, 40 and 45 bushels per acre; at Alma it is "first class," from 50 to 60 bushels.
 Barley.—From 20 to 40 bushels the general average yield, the latter figure more generally.
 Corn.—"Good," "above an average," "looking well," "extra good."
 Potatoes.—Generally good, though in some parts injured by the potato bug.
 Turnips.—A light crop. Of other root crops, little mention.

The average here given is greater than that reported in the United States, yet we must confess that we are dissatisfied with the yield of our fields this season. Our farmers can produce much larger crops.—The reports from Michigan show the average yield in that State to be under 15 bushels; but to sit down contented because others have done worse than ourselves is not the way to make the desired progress in any business. The question for us to ask ourselves is, not if others are not astern of us in the great race of national industry and progress, but how shall we come abreast of the foremost? Can we not compete with the good old country? We reproduce the observations of an American on the state of agriculture in England:—

"Some fields that I saw would average 30, some 36, and others 40 bushels per acre; 60 and 65 are often reported. One field that I saw gave an average of 44, and I heard of an average of 68 bushels per acre. I am well satisfied that the yield is from 50 to 100 per cent. beyond our American average." (See FARMER'S ADVOCATE, August, 1872.)

The wheat of Canada is of very fine quality, but very far inferior to the wheat of the old country in yield. The Canadian farmer has, it is true, much to contend with in the climate; but I have not the slightest doubt that our average yield might be very much increased. Our Fall Wheat of this season has been in some

places badly winter-killed; but might not this winter-killing be at least in part avoided? I believe it might, and I believe the extra labor bestowed on the preparation of the soil in Britain would prove here at least a partial remedy. Were the soil brought into better tilt by deep ploughing and sub-soiling, the wheat plant would acquire a greater mass of roots; and were a deeper covering added to this more thorough culture, much would be done towards guarding against the injury too often done to our fall crops by the severe frosts. The method I pursued for years in broadcast sowing winter or early spring wheat is as follows: I had the ground ploughed into ridges or beds of say seven feet, slightly rounded that the water might not lie stagnant on the ground.—Then, having sowed and harrowed, I had the earth in the furrow cast even over the ridges; then, having taken the mould-board off the plough, I ran it in the furrow so deep as to nearly cover the beam. This earth I cast also evenly over the ridges, leaving a furrow often twelve inches deep. From this culture I had always a heavy crop.

Another method I sometimes pursued was ploughing the seed under. This would do well when the soil was perfectly clean and in good tilth, after being fallowed or after a root crop.

The trenching entailed, of course, additional expense, but this was amply repaid. My maxim in farming has always been:—"A poor crop never pays."—Ass't Ed.

Underneath is the G. T. Railway report of the crops of the London district, abridged for the ADVOCATE:—

FALL WHEAT.—Large breadth sown; yield below the average—15 bushels per acre.
 SPRING WHEAT.—Large crop—samples good—yield 25 bushels per acre.
 OATS.—Fair average crop; average about same as last year—35 bushels per acre.
 BARLEY.—Samples light and inferior—25 bushels per acre.
 RYE.—But little grown; crops and samples good.
 PEAS.—Small crop; injured by bugs—15 bushels per acre.
 FLAX.—Average crop—average sown larger than usual.
 POTATOES.—Fair crop; partially injured by bugs.
 APPLES AND FRUIT CROPS.—Generally good.
 HAY.—Fair crop; excellent quality.

We also give below the crop report of the T. G. and Bruce Railway for the county of Wellington:—

MOUNT FOREST.—Fall wheat, 30 bushels per acre, good, not much sown; spring wheat 25, large quantities sown; barley 40, not much sown; oats, 50, good, large quantities sown; peas, 40, good, largely sown; turnips, 100, poor, large quantities sown; potatoes, 20, good, largely sown.
 KENILWORTH.—Fall wheat 35 to 40 bushels to the acre, good yield; spring wheat above the average; coarse grains unusually promising; potatoes, good crop; turnips, failure generally.
 ARTHUR.—Crops have not looked as well for years back. Fall wheat, very little sown, spring wheat better than it has been for years; coarse grain and green crops very good and above the average.
 AMARANTH, WALDEMAR AND LUTHER.—Fall wheat, very little sown, but what there is of it is good; spring wheat, 20 bushels to the acre, looks well, and will average this at least; barley, good crop, rather better than average; oats 40, large quantities sown, very fair prospects; peas look well; hay, good crop, well saved; roots, good crops.
 ORANGEVILLE.—Fall wheat, 15 bushels per acre; poor crop, more than half of it having been winter-killed; spring wheat, 20, fair crop; oats, 30, promise well; peas, 15; turnips almost a total failure; potatoes, very fair crop.

In speaking of the crops in the Northwest Province, one of our Manitoba exchanges of the 31st ult., says:—"From all quarters we hear the most favorable accounts of the crops of all kinds this season. The growth has been luxuriant in

the extreme, and the grain has all been secured in good shape. Several gentlemen from Canada, who made a tour of the Province for the express purpose of examining the growing crops, have returned, and express themselves as delighted beyond measure with the magnificent aspect they present, and say it far exceeds anything they had thought possible. As figures tell best in all matters of this kind, and give strangers a better idea of what the capacities of the country are than any amount of generalities, we should be glad if some of our enterprising farmers would send us for publication a notice of the quantity sown, and the return yielded, together with the time of sowing and reaping, and such other information as they would be anxious to procure for themselves in respect of any new country they thought of going to.

Farmers' Club.

The Farmers' Club met at the Wellington Hotel, Markham, on Saturday, the 7th inst. A goodly number of members and several visitors were present. The President, Capt. T. A. Milne, occupied the chair, and opened his meeting by stating that the subjects for discussion were:—"Seed Wheat, and the Cultivation of Alsike Clover and Grasses; and the Answering of Government Questions relative to putting a Duty on Grain."

Mr. Gibson said as the government questions did not at present require pressing answers, in consequence of parliament not meeting until February, and it being too late to take up the seed wheat question to be of practical benefit this season, he would propose that the club do now discuss the question of the advisability of the Ontario Government establishing a government farm in connection with the agricultural college. The question had been proposed at the July meeting, and the president had been requested to read a paper at the next meeting thereon—the meeting concurring. Mr. Gibson said that the subject might appear political, and as the club was strictly non-political, some might think it was not a proper subject for discussion, but if they looked at it in a proper light, it was a matter that would effect the farming interest very materially and solely, and its discussion here was not only proper, but very important. He hoped it would be discussed fearlessly and on its agricultural merits only. He was sorry that Mr. Crosby, the local member, was not present to take part in the discussion, and note the views expressed by the several members of the club. Mr. C. had generally attended the club, and was a useful and efficient member. He (Mr. G.) did not know whether the government had made a proper selection of location or not, nor did he feel sure that a government farm would add to the prosperity of the agricultural interest of the province.

The Hon. D. Ressor agreed with the remarks made by Mr. Gibson, that the question was a very important one, and one that could be discussed without involving party politics. The members of the club were a very intelligent type of the agricultural class, and could, and doubtless would, discuss the question without reference to party. It was of great importance to the farmers of Ontario, and affected them most materially. The question of establishing an agricultural college with farm attached, had long been discussed, and finally decided upon by parliament, and the only thing to be discussed was the proper method of conducting it to make it beneficial or to add to its usefulness. There were so few of the members of parliament practical farmers, and it was so difficult to get practical farmers appointed, or who would accept government appointments, that there was a danger that impractical theories proposed by scientific men in the legislature, might prove detrimental to the management of the farm. It could be conducted in a manner to make it very advantageous to the public. The present locality he thought was a central one, and as good as could be made if the soil was only of the proper kind. He thought the government would be pleased to have the members of the Farmers' Club, and any other practical farmers visit the farm and give their opinions respecting it. He would like the club to appoint a committee to go and examine it. If its soil was such as was by some represented—a hard pan with a few inches of sand on the surface—the government would make a mistake in putting on buildings and otherwise fitting it up for a model farm, as it would not be a fair

representation of the average quality of the soil in the province, which it should be, as it would be visited by a great number of old country farmers. It was only right that there should be a model farm in connection with the agricultural college. The professors should be scientific and practical farmers, men of keen, perceptive faculties and sound judgment, who would introduce the best stock, and understand the best methods of stock-raising and latest improved systems of stock-farming; then it would be of great advantage to the province, and should be sustained by the government, even though it were not self-sustaining. The government was establishing a Technological School, for the education of mechanics, which was also commendable, and the colleges, high schools and common schools were all government schools, and he thought the agricultural college, with the model farm, would be of the greatest importance in educating farmers' sons. It required as good an education, as good practical knowledge of science, as good judgment and as much study to manage a farm profitably as it did to succeed in any branch of industry or art. Good agriculturists were good men of business and sound judgment, and the more you can get farmers' sons to make farming a study, the better it would be for themselves and the country. Give them a good practical agricultural college education; it will be the means of inducing them to stick to farming instead of leaving home, and enable them to make farming the most profitable and honorable calling. He would be glad if the club would visit the model farm, and he thought arrangements could be made to do so. The Hon. A. McKellar, Commissioner of Agriculture and Public Works, would, he thought, be well pleased to have such interest shown by the intelligent farmers of Ontario.

Capt. Milne thought it difficult to discuss the question fully and intelligently without having visited the model farm. He thought the location should be central and the soil good. There were many important matters to be considered in selecting the location and soil of a test farm. He had never seen the farm selected, and could not give an opinion.

Mr. Gibson said he was hardly prepared to go into the merits of the question. He had doubts as to the advisability of the government establishing a model farm. He thought the money required to establish and maintain it could be more beneficially expended in other ways. He thought private individuals had, and would take hold of these enterprises, such as the importation and raising of stock and scientific farming, and it was hardly fair to them to have the government competing with them. If the government would loan the funds required to purchase and carry on the farm, to farmers with small means to enable them to drain and otherwise improve their farms, it would be more beneficial to the country. He did not believe in government monopolies. He thought the agricultural college a necessity, but doubted whether the men of science, who would have its control, would be the men with fists fit to undertake the practical illustrations of husbandry. Better let the farmers do the farming.

Hon. D. Ressor said that he did not understand the question to mean whether we were to have a model farm or not, as an act of parliament had declared that we should. He did not believe the government intended to go into extensive farming, but should have a chair in the college and a model farm to exemplify farming simply. It would not be managed by government officials, but only sustained by government as other schools. It was not intended and could not be made a political engine, by which either party could be manipulated into or out of power. It was only intended for a school for young men to attain a high position in agriculture, the same as schools of technology, law and other professions; he thought such a school very desirable for agriculturists to fully elevate their sons to as high a position as in commerce, law, or any other profession. Agricultural fairs, and reading agricultural works, were schools of benefit, but the agricultural college was intended to give the highest education attainable in agriculture, and confer degrees as in all other professions. Mistakes might be made in appointing professors, but they could and would be corrected. He could not see that the importation and breeding of a few choice animals by the government for this model farm, was likely to effect the business of enterprising stock importers and breeders injuriously; on the other hand, he thought it would give an impetus to the trade by educating the young farmers to know the value and

merits of stock, and be enabled to select and purchase on their merits solely. It was true, that some wealthy commercial men had gone into importing and raising stock, and been successful in it, but they employed first-class agents to manage for them. Our own sons, if properly educated, could do their business without an agent. He thought the college and farm would be profitable to all concerned.

Mr. Gibson thought perhaps he had expressed his views rather strongly. He thought private capitalists might import all the stock required in the country. If the college and farm was only intended for the educating of farmers and demonstrating the art of farming, he had no objection to it. In the old country young men were practically educated at private establishments, such as Mechi's. He was not prepared to give an opinion as to which was the best course. He thought the government would be glad to have the members of this club visit the farm and express an opinion as to its adaptability.

Mr. J. G. Reesor thought there were other and cheaper means of securing an agricultural education for young farmers than that of an agricultural college and model farm. He thought it would be more beneficial to the agriculturists to advise the government to have published a first class agricultural journal, and have it sent gratuitously to the farmers.

Mr. Gibson did not approve of the government conducting a paper, as it might be used for political purposes. He approved of the plan recommended by the FARMER'S ADVOCATE, that of forming a joint stock publishing company and print a journal of their own. Mr. Weld had offered to merge his paper and emporium into a company of that kind, or he would sell out his interest in it. He (Mr. G.) thought the farmers should have such a journal to advocate their interests, and have sole control of it. He thought it ought to be sustained, but he did not think it should take the place of the agricultural college.

Capt. Milne said he thought an agricultural college, with a model farm, would be very beneficial, and thought it should be made self-sustaining. If it paid private individuals, and it certainly did, why not the government, when managed by an efficient staff on the most scientific principles. It would afford the farmers the only means to give their sons a thorough practical agricultural education, which would not only give them a taste for agricultural pursuits, but give farming, as a profession, a higher standard than had been heretofore accorded it by members of other professions. He had no doubt but that some of our sons would become authors, and might be able to write as good, if not better works, than Alderman Mechi, and certainly more interesting and instructive than Horace Greeley's "What I know about Farming." The discussion was becoming more interesting and instructive, and he hoped to hear an expression of opinion on the subject from every member present.

Hon. D. Reesor said the government could not undertake to publish an agricultural paper. Politics would inadvertently slip in, but private companies could do it. He did not think the FARMER'S ADVOCATE quite up to the standard desirable. The *Canada Farmer* was very well conducted under the guidance of the Hon. Mr. Brown. The articles were a little heavy and not so captivating for general family reading as some others, but it was not as well sustained as it should be, on account of its manager being considered a politician, although no articles having the least political tinge ever appeared in it. In order to establish a good reliable farmers' paper, it would be necessary to organize and raise a capital of at least \$30,000 to furnish plant and material, which might be done if active agents were employed. In regard to private parties educating the young farmers on their extensive farms, as in the old country, we had not the facilities, wealth and influence to do it. These institutions would grow out of the college and model farm. We had not such extensive farmers as Alderman Mechi in the province; in the old country there were many. He read only a few days ago of one gentleman in England, whose sale of stock amounted to half a million. He could afford to establish such an institution.

Mr. Gibson urged the propriety of the farmers establishing a paper of their own. He differed with Mr. Reesor as to the character of the FARMER'S ADVOCATE. He thought it fairly conducted. He would have taken the *Canada Farmer* had it not been managed by the Hon. G. Brown. He thought the farmers could conduct their own paper. The farmers have not had the influence in the country that they should have.

Mr. Pike said he believed that it was the duty of the farmers to look after the educational interests, as well as other agricultural interests. They were the most influential class in Ontario, the bone and sinew of the country. In order that their sons might be prepared to occupy the important positions of trust and emolument which they had a right to claim, they should be thoroughly educated, and the agricultural college and farm was the proper place to get their education. He thought it could also be made self-sustaining.

Mr. Crawford said the subject was one of great importance to the farmers especially. He did not see why the model farm should not be self-sustaining, and it would certainly be a great boon to all farmers as a means of securing the best stock, as well as the facilities of securing for their sons a first-class agricultural education. The Allans, Logan, Shedden, Cochrane and others in Quebec, had made dealing in stock and model farming pay—why not the government model farm? The money expended upon it in testing scientific experiments, would not be felt when taken from the whole, but it would be too heavy a risk for an individual farmer. Stock could be imported from the most reliable old country breeders, such as Booth, the price of which would be too high for individual farmers to purchase. In a short time the most celebrated breeds of horses, short horn and other cattle, and sheep, would be distributed throughout the province, and Ontario would thus become a stock market, resorted to by dealers from all parts of America. The location of the model farm on the Humber was good, but he thought from what he had heard that the soil was bad. It wanted a good farm to yield results. This question was a very important one; the more it is discussed the broader it gets.

A Voice.—How is it that the capitalists of Ontario do not go into model farming in Ontario?

Mr. Crawford said that one reason was, they were too much of a money making people, and did not want to try experiment. The soil and climate in Quebec was also very good for grass growing and stock raising.

Hon. D. Reesor said he was pleased with the practical remarks of Mr. Crawford. He thought one reason large capitalists, like the Allans Logan and Cochrane, went into model farming in the Province of Quebec was because their farms were near their place of business, and they expend their surplus in it, in order to gratify a taste acquired in their early days. They could also buy land cheaper, and obtain laboring hands cheaper. There was no doubt that as business men became wealthy in Ontario, their tastes for farming would lead them to do similar. Messrs. Brown and Irving are doing it in Ontario. The Agricultural College and Model Farm would be established in Ontario, and the Club ought to take such measures as to have it conducted in a manner to benefit the farmers and their sons. Every person had a right to visit the farm, and he thought the duty of this Club was to visit it and express an opinion as to soil, &c. If it be good, report it so; if otherwise, recommend the government to make a change.

Mr. Jennings thought every farmer in Ontario who chose could go into stock raising, without assistance from government. He had made his money by stock raising, and had always been successful. He did not think the stock shown at Montreal was generally better than that exhibited by the Millers and others in Ontario.

Mr. Rennie said the best thorough-bred stock was too high in price for ordinary farmers to get into it. The risk of having inferior stock palmed off on them, unless thoroughly educated to judge of their merits, was too great. The Agricultural College would fit the young farmers by educating them to judge stock correctly, and also furnish good stock to purchase at fair prices.

A resolution was then passed, appointing a committee, composed of Capt. T. A. Milne, the Hon. D. Reesor, and Messrs. J. Gibson, H. Jennings, S. Rennie, J. Trann, J. Crawford and J. G. Reesor, with as many other members of the Club as chose to join them to visit the Model Farm, and report to the Club their opinion as to the quality of the soil, &c.

Mr. Sanderson, seconded by Mr. Jennings, moved that the subject for discussion at the next meeting of the Club be, "Architecture of Agricultural Buildings."

The Club adjourned to meet at Crosby's Hall, Unionville, on Saturday, the 5th of October next, at 2 o'clock p.m.

Agricultural.

SAVING TURNIPS FOR WINTER FEEDING.

The English, who are our instructors in this branch of husbandry, and have taught us most of what we know on the subject, have some advantage in climate over us of Pennsylvania, though not of the South, which admits of feeding the bulbs as they stand in the ground, as well as under cover, the stock, especially sheep, being grazed upon them, using hurdles to confine the stock to a limited space, a flock destined for the butcher being first turned in, where they may feed upon the better portion, then moved into a fresh enclosure, thus enticing the appetite. These are succeeded by a store flock, which picks up the fragments so that nothing is lost.—This process corresponds with that of our prairie farmers, who turn their beef cattle into the standing corn (to us of the East, a bad practice), and follow by hogs, which, we are told, find every stray grain; and aid in preparing the land for the succeeding crop.

In our country, where a five-acre patch of ruta bagas cannot be found within some of the States, to say nothing of counties, the statement may excite surprise, that a hundred acres of that root in the hands of a single farmer of Great Britain is by no means unusual; and it is within a few days the writer entertained an English farmer who himself had 250 acres in roots annually! Of course such large breadths demand every mechanical device and appliance for saving the crop, and instead of, as with us, each bulb destined to be stored being pulled up singly by the hand, and cast into a heap, then again taken in hand and topped, and again cast into a heap preparatory to being hauled away, they, on the contrary, is held perpendicularly in hand, and with a quick action drawn horizontally, thus decapitating each bulb in succession as it stands in the ground. This done, they are drawn out and into windrows by a chain-harrow, an English implement which we have in use at Bloomdale. It can readily be seen with what celerity this labor may be performed, and the great saving in cost.

With our small patches we can get along, however, by the old time-honored practice; with increasing breadths of land in roots will come improved methods. We have adopted some already; instead of topping all the bulbs of the crop, we haul a portion just as pulled up, top and bulb, to a convenient position near the stables, place them in a narrow, ridge-like form, and cover with straw, corn fodder, or any light, trashy material which may be at hand. Thus they are preserved until New Year or longer, using from one end, and covering up after each removal. We have pursued this plan for many years. It is true, in warm, damp weather the tops partially decay, and become somewhat slimy, but the bulbs do not take harm, and cattle feed on them, and the tops, also, with much avidity. Perhaps a little salt sprinkled on each mess would be an advantage. For milch cows that is recommended, to be given with roots immediately after milking.

The main winter and spring stock of bulbs we preserve in pits—not mounds, as made in some localities—narrow pits, after this fashion: Select a suitable spot, near the stables if practicable, but surely where the drainage is good, an indispensable prerequisite; dig a trench sixteen inches wide, and as many or more inches in depth, the length as convenient or necessary. In this place the topped bulbs, and cover with the earth dug out of the trench, using a little more in addition as winter approaches. If cold may be expected in severity, place over all long stable manure, or anything which will impede the entry of frost, without creating warmth.

Thus we have found roots of any and all descriptions—ruta bagas, common tur-

nips, carrots, beets, parsnips—to keep well. They are accessible at all times, and when needed may be removed in larger or smaller quantities as desired. Altogether they are better than mounds, which being elevated are exposed to frost, and require care in construction. In the pits described we annually keep beets and carrots far into the spring, indeed have fed our working oxen with beets, to their great delight, up to July 1st.—*Landrell's Turnip Pamphlet.*

ASHES AND PLASTER ON WHEAT.

The profit in farming is all made from growing large crops. A farmer cannot make any clear money out of fifteen bushels of wheat to the acre, or out of thirty bushels of corn to the acre, or twenty bushels of oats, or a ton of hay; nor from pastures which afford just about feed enough to keep animals from growing poor. Don't his own experience prove it to himself beyond question? Yet there are more farmers that fall below these figures than there are that go higher.—This the census returns prove, by showing an average yield of less per acre, the State through, than we have noted above.

If a farmer's own experience don't satisfy him on this point, there is nothing that we can say that will convince him that he is making no progress. Surely, when a man has labored along for a dozen years or more, he ought to have something to show for it. He may say that he has lived and supported his family, but that is not enough—he ought not to be satisfied with that. If he had set his wits at work and increased the produce of his farm one-third—which without doubt he might have done—he would to-day have something more to boast of than the making of a bare living.

To show how easy a thing it is to increase the yield of wheat, we will relate a simple experiment with ashes and plaster by Mr. Hiram Lockwood, of Burr Oak, St. Joseph Co., Mich. Mr. Lockwood is one of the most thorough and prosperous farmers in this section; and it is no flattery to say that this is a result of careful observation and close attention to business, giving everything his personal oversight and superintendence. Having a hoghead of house ashes last fall, he thought he would try the experiment of mixing plaster with them and sowing on wheat. Accordingly he mixed a barrel of plaster with the ashes, making about one-third of the former to two-thirds of the latter. He sowed at the rate of about fifty pounds to the acre, on one side of a wheat field, the wheat being fairly up. A couple of showers came upon it soon after sowing, and the effect of the application was very soon visible in the deeper color and more vigorous and rapid growth of the grain on the part to which the mixture had been applied. This difference in appearance and growth was maintained through the fall. This spring the plants on that portion took a more decided start ahead of the rest of the field, the line of separation being distinctly seen from a distance.

MULCHING.

For a general mulch there is nothing equal to the soil itself. A thorough pulverization of the surface is the same as a coat of sawdust, cut straw, or any similar fine application. There is some fertility, it is true, in these latter; but then there is some enrichment secured also by working the soil, the labor in the two being about equal, though the latter can be increased; but then its benefit from increased fertility will balance and more than balance this.

Our corn fields, therefore, are mulched to advantage by the use of the cultivator. Whether it would pay when this ceases to apply a special mulch, is a question. It will with potatoes. The mulch, if a thick one, will keep moist, will prevent weeds and the crusting of the surface, thus giving access to air, which it is now under-

stood is a benefit to the ground cool.

The best mulch is made of green grass and shrubs and you should be careful to do this. The ashes will turn will protect also, will add for several years results. The effect; then in defiance of it apply it to grapes.

This for sum there needs equ have itself or t good afterwards to do this. It there will be nished by goes the roots, the self, being an a where the grow.

Straw is a g In some parts protect the boughs, the many, that can smothering, an The roots of g trees should b down by a litt frost both in i winter of 187 leaves will ad of the right k

TIP TREE H

In the Engl June 17, Mr. and very suc some facts co tree Hall."

128 acres and (in 1841) £3. per acre. Th paid £150 ren buildings we the land was open ditches shape, and o bog, unsafe removed thr and enclosed forty-two in but with son vided for the swampy, and loving as bir ter." Some yielded about ters per acre workable, th discharging water per m winter. It all changed, nothing but 1868, on son (64 bushels) per acre, an or £4 more ally cost. seven and wheat; in 1871, five this year it to be follow have often per acre. ing, with greatly rid has been h and with g cludes his "opposed t of entail a

CAUSE OF

Frederic riculture, experience the conclu the wheat

stood is a benefit. Besides, it will keep the ground cool—what the potato wants.

The best mulch for this, as well as for shrubs and young trees of all kinds, is one of green grass or weeds, applied immediately after the last stirring of the soil, and sprinkled well with leached ashes. The ashes will draw moisture from the air and protect the green coat, which in turn will protect the soil below. This, also, will add fertility. We have used it for several years with the most gratifying results. The severest drouth has but little effect; there is a fine growth, seeming in defiance of the weather. We also apply it to grapes, and with benefit.

This for summer mulching. For winter there needs equal protection. Grass must have itself or the snow to protect it. A good aftermath or well drained soil is sure to do this. It will lessen the leavering; and there will be considerable fertility, furnished by the plant itself, which is not lost, but goes at once to form pabulum for the roots, the plant thus reproducing itself, being an addition to the usual growth where the ground is fed close.

Straw is a good mulch for winter wheat. In some parts it is a rule to apply it. You protect the strawberry by evergreen boughs, the best protection, among the many, that can be applied. It prevents smothering, and it keeps off the cold. The roots of grape vines, shrubs and small trees should be covered with leaves held down by a little soil. It will lessen the frost both in intensity and in depth. The winter of 1871-2 was a test. Besides, the leaves will add manure in the spring, and of the right kind.—*W. Farmer.*

TIPTREE HALL, MR. MECHE'S FARM.

In the English agricultural papers for June 17, Mr. J. J. Mechi, the well-known and very successful English farmer, gives some facts concerning his farm of "Tiptree Hall." The original farm embraced 128 acres and fraction, and cost Mr. Mechi (in 1841) £3,150, or about \$120 (say \$120) per acre. The tenant then in possession paid £150 rent per annum. The farm buildings were ancient and unhealthy; the land was undrained; the fields and open ditches numerous and irregular in shape, and on part of the premises was a "bog, unsafe for man or beast." Mr. M. removed three and a half miles of fences, and enclosed sixty acres in one lot and forty-two in another, "without a tree," but with some two acres of shrubbery provided for the birds. "The light land was swampy, and the heavy, on a wet day, as loamy as bird lime, but as slippery as butter." Some of the wheat crops in 1842 yielded about one and a half to two quarters per acre. "Now the land is dry and workable, the bog especially so," the drain discharging from 40 to 45 gallons of pure water per minute in summer, and more in winter. It was a fever district—that is all changed. Some of the land produced nothing but furze, broom and ferns, but in 1868, on some of this land, eight quarters (64 bushels) of white wheat were grown per acre, and with the straw realized £28, or £4 more per acre than the land originally cost. In 1869 the same land yielded seven and a half quarters of Rivett wheat; in 1870, 39 tons of mangolds; in 1871, five quarters of red wheat; and this year it has a promising crop of beans, to be followed by wheat. Other fields have often yielded seven quarters of wheat per acre. The example of thorough farming, with its successful results, though greatly ridiculed at first by the neighbors, has been largely copied now among them, and with great benefit. Mr. Mechi concludes his account by pronouncing himself "opposed to fixity of tenure by the laws of entail and primogeniture."

CAUSE OF THE DETERIORATION OF THE WHEAT CROP.

Frederick Watts, Commissioner of Agriculture, in a recent letter, says:—The experience of many years has led me to the conclusion that the deterioration of the wheat crop is mainly attributable to

the improper and untimely use of barnyard manure. In our practice the clover sod is turned down and planted with corn. The ground is again plowed in the spring and sowed with oats, and upon the stubble of this crop all the manure of the barnyard put, and then plowed again and sowed with wheat. This delicate plant is then subjected to the rawness and grossness of barnyard manure, with all its germs of flies, worms, lice and bugs—seemingly a sufficient cause of the unsuccessful growth of a grain so pure and delicate as wheat. Corn is the hog of plants, and will devour food of any quality and thrive upon it. Here then, upon the sod to be ploughed for corn, is the place to put barnyard manure. Bury it deep, and when the corn is cut off break the stubble even with the ground during the winter. In the spring harrow your ground well, sow your oats upon it and roll it. You will thus keep your manure where you put it, and not subject the oat crop to be thrown down by it. When the crop is removed bring your manure to the surface by deep ploughing and thorough tillage. The barnyard manure having thus received proper preparation is a fit food for the wheat plant. Experience has taught me this lesson. On my farm in Pennsylvania I never fail to raise a satisfactory crop of wheat, and I have known no such thing as midge, Hessian fly or army worm."

WEED SEEDS.

The seeds of cockle, chess, and other weeds that are mixed with the screenings from the fanning mill, should be carefully prevented from getting mixed with the manure in the barn-yard. We once permitted a neighbor to run a few bags of grain through our fanning mill, and gave him the run of the barn for that purpose. When he had finished, and during our absence, he—doubtless with good intentions—scattered the screenings all over the barn-yard, so that the fowls might get the waste grain. This probably was intended as a sort of recompense for the use of the mill. Alas! we never regretted more than on this occasion the doing of a favor that resulted badly for ourselves. Our manure pile was thoroughly seeded with cockle and chess, and probably ten years of labor will be inflicted on us before these seeds can be eradicated from the field on which that manure was spread. We mention this circumstance as a warning to others, and also as a forcible reminder to all that weed seeds should be consumed with fire and utterly destroyed. Don't feed them to poultry; they won't eat cockle, and the seeds seemed to last for ever; by hook or crook they will get into the fields somehow. Put them in the stove and you will have seen the last of them.—*Ec.*

SUCCESS IN FARMING.

Much of the success we observe among the best class of farmers results from calculation, skill and energy. A man to fully succeed upon the farm must be an intelligent investigator. He should at least understand farm chemistry, that he may determine the character of his soils, and how to handle them, and the best time to do it. He should understand the principles of the laws of nature fully and clearly.—He must know the effect of each manure upon each particular soil. To know this, he must understand the first great principles of chemistry, and in natural philosophy should be well versed. In fact, the successful farmer must be a scholar and a teacher. It is not enough that he knows, mechanically, how to plow, sow and reap. He should understand when to do it, and the relations of the elements one to the other. The benefit of a rotation of crops should be a part of his farm knowledge; subsoiling, the application of manures, and their effect upon each particular cereal, should be clearly understood. Any man can be a botch upon the farm if he wills it; but to have success in farming, there is much to learn. To be a complete farmer, there is more study,

research and experiment necessary than to fit a man to be a physician, merchant or lawyer.—*Rural World.*

RESULTS OF DEEP PLOWING.

In the fall of 1869, Mr. D. plowed 37 acres from twelve to fourteen inches deep, using six horses for the work. The ground was sown in September, and the young grain made a fine growth that fall. The next season was very dry, so much so that vegetation generally suffered severely, but this piece of wheat did not show any marked effects. It was remarkably free from weeds, and very even in growth.—When it came to be threshed the yield was twenty bushels per acre, while adjoining wheat lands, with shallow plowing, yielded less than half as much.

The next experiment was with the same piece of land and forty acres more adjoining it; the land was plowed with eight horses, four abreast, and the average depth attained was somewhat greater than before. The growth was very fine and uniform, and the yield of the whole piece (77 acres) a little over thirty bushels per acre.

In sowing the new piece of forty acres, an experiment as to the most profitable amount of drilled seed to the acre was made. The quantities tested were half a bushel, one bushel, one and a half, and two bushels. The last two amounts gave the least satisfaction, while as regards the first two it was not easy to decide by the eye which was best, and no test by measuring the actual yield appears to have been made.—*Kansas Farmer.*

PLOWING TWICE FOR WHEAT.

A correspondent of the Cincinnati *Gazette* writes:—If any one will break his ground deeply and thoroughly two or three times during the spring and summer, the extra amount of wheat per acre will pay for plowing, and leave a handsome profit besides. I have tested this practice several times, with the most satisfactory results. In 1869 I had a field of 16 acres of like fertility. I expected to plant half the field in corn, but for some reason I did not. In the half that had been plowed for corn after the ground had been broken, the weeds grew more rapidly. Consequently I broke it again the 20th of June. On the first of September following I plowed the entire field and sowed in wheat. The result was as follows:—The half which had only received a single plowing yielded per acre 13 bushels and eighteen pounds; the half that received three breakings yielded per acre 23 bushels and 40 pounds, which made a difference of more than 10 bushels per acre. At \$1 per bushel this would pay for the extra plowing and leave a net profit of \$6 per acre beside.

SOURCES OF FERTILITY IN FARMS.

The sources of fertility to farms are the refuse of the crops which they bear, modified by the farm stock, and preserved and judiciously applied by the husbandman. There is not a vegetable matter grown upon the farm, be it considered never so useless or obnoxious, but will, after it has served ordinary useful purposes, impart fertility to the soil, and contribute to the growth of a new generation of plants, if it is judiciously husbanded and applied. There is not an animal substance, be it soil, liquid or gaseous—be it bone, horn, urine, hair, wool or flesh, or the gasses which are generated by the decomposition of these matters—but, with like care and like skill, may be converted into new vegetable, and afterwards into new animal matters. To economize and apply all these fertilizing materials, is the province and the duty of the husbandman.

Agricultural Items.

The *Michigan Farmer* estimates the average wheat crop of that state this year at 19 bushels per acre.
U. S. APPLE CROP.—According to the monthly report of the Department of

Agriculture, we observe that the apple crop promises to be above an average.

The *Western Farmer* says that in Wisconsin especially some sections have suffered very severely from the drought, but, taking the state as a whole, the crops are fair, and prices also promise to be very remunerative.

ILLINOIS.—We learn that the army worm has committed great injury to the oat crop in this State. No better means for guarding our crops from its ravages have been discovered than those given in this month's *FARMER'S ADVOCATE*.

A FARMER of the vicinity of Indianapolis a few years ago sold his farm for \$4,000 and went West to grow up with the country. Recently he was in that city seeking employment at \$60 a month, while the ground that used to be his farm is now worth nearly a million dollars.

SUBSOILING.—C. W. Homk, Ball's Co., Mo., writes that he has tried running a subsoil plough in the rows where corn or potatoes were to be planted, and gained an astonishing increase in the crop. This is the general testimony in regard to subsoiling, which loosens the deeper soil, without burying the surface soil.—*Am. Agriculturist.*

EARLY SPRING WHEAT.—One of the pioneers of agriculture in Lower Canada says:—"This spring (1862), finished our spring wheat, sowing in the month of March about 30 acres. I had the second year of my clearing one hundred acres of the best wheat I ever saw." The yield was over 3000 bushels. From one measured acre, he had forty bushels of wheat.

SUBSOILING.—A. D. C., in *Moore's Rural New Yorker*, thus speaks of his experience in subsoiling:—"We subsoiled a lot for corn in 1869 (been greenward, we used two teams, that being a very dry season), and planted it to corn. We had a very large crop; where we subsoiled, the leaves did not roll in the dry weather, but where the subsoiler was not used, they rolled badly, showing that subsoiling is a remedy for drought."

POTATO STARCH.—We were informed, during a recent visit to the White Mountains in New Hampshire, that the potato crop, for the manufacture of starch, was the most remunerative of all farm products in that region. We observe that a New Hampshire paper states that there are over sixty factories of potato starch in that State, nearly all in the most northern counties. Over 3000 tons were made last year. Will the potato bugs interfere with this business, and when?—*Country Gentleman.*

THE ENGLISH HARVEST.—A letter appears from Mr. J. J. Mechi, in the *London Times*, on the 28th ult. In it he delivers the following opinion of the crops:—"Fourteen days of bright and dry weather have permitted the free use of the scythe and reaping machines, so that harvest is nearly completed in this neighborhood, and threshing machines have been set at work. These results prove unmistakably that straw is out of proportion to corn (grain), and in fact that the wheat crop heretofore is, in too many instances, a decided failure (belying their appearance), both in quantity and quality, more especially on stiff tile earths, and undrained soils. In many cases, the crops have been ruined by ice, storms and weeds. The amounts of the fine white wheat called "rough chaff," which in dry seasons are produced so abundantly and extensively on the stiff soils of the Dengie Hundred, are quite deplorable. Red wheats have stood the season better than white. Rivetts are very good and perfect, the season having suited their growth and development. This will be a bad season for heavy-hand arab farmers, for labor and expenses are heavy. Light-land farmers have the best of it."

A CORRESPONDENT of the *Woodstock Review* says of Lower Canadian farming:

parsnips—to keep possible at all times, be removed in large mounds, are exposed to frost, and indeed have fed with beetles, to their

ON WHEAT.

is all made from A farmer cannot the acre, or out of to the acre, or a ton of hay; afford just about minimal from growing an experience prove it? Yet there at fall below these that go higher.— prove, by showing ss per acre, the State e noted above.

n experience don't pint, there is nothing t will convince him o progress. Surely, red along for a dozen ht to have something may say that he has his family, but that is t not to be satisfied t set his wits at work duce of his farm one- t doubt he might l to-day have some- of than the making

y a thing it is to in- heat, we will relate a with ashes and plaster wshed, of Burr Oak, n. Mr. Lockwood is rough and prosperous on; and it is no flat- is a result of careful se attention to busi- his personal over- endence. Having a ashes last fall, he y the experiment of them and sowing on y he mixed a barrel of es, making about one- to two-thirds of the at the rate of about are, on one side of a at being fairly up. A ame upon it soon after ect of the application e in the deeper color and rapid growth of h to which the mixed. This difference in owth was maintained This spring the plants k a more decided start e field, the line of istinctly seen from a

MULCHING.

mulch there is nothing elf. A thorough pul- surface is the same as a t straw, or any similar There is some fertility, latter; but then there eured also by work- labor in the two being h the latter can be in- its benefit from in- ill balance and more

therefore, are mulched e use of the cultivator. pay when this ceases to ch, is a question. It The mulch, if a thick ist, will prevent weeds f the surface, thus giv- which it is now under-

Orchard and Forest.

HOW TO ARREST THE RAVAGES OF THE CANKER WORM.

Believing, as I do, that this subject is of vast importance to the country, and that you will agree with me in so believing, I take the liberty to address you this letter. The canker or measuring worm, which made its appearance in this part of the country but a few years since, has been spreading rapidly, and now may be seen in almost every township in the Northwest, some orchards at this time being entirely stripped of foliage by them, and unless an effort is made to exterminate them, in a few years more there will not be an orchard left "to tell the tale." The female canker worm rises out of the ground in the spring as soon as the frost is out, and crawls up the trunk of the tree (as she is wingless), and deposits her eggs under old bark or in rough places, which hatch in May into small looping caterpillars, or so-called measuring worms, which in a short time destroy the foliage. Now, to keep her "ladyship" from crawling up the tree is the point to be gained. Lead-ore oil troughs used about the trunks of trees have been tried with some success, but the oil running over is apt to injure the tree. The plan, however, that has proved a perfect success, is by the use of coal tar. I saw a man at work last spring in the State of New York applying it to the trunk of the tree, forming a ring six to ten inches wide around it, which dose he informed me he repeated every day, and should continue to repeat as long as there was a necessity. That he was successful in keeping the worms down, was demonstrated by the fact that not one had got above the ring of coal tar, and that there were many thousands on the ground at the foot of the trees, lying motionless. He had discovered that unless he put on the coal tar every day, it would dry and the worms would crawl over dry-shod. Mr. Smith, an extensive orchardist of Des Moines, Iowa, has discovered an improvement on this plan, whereby two or three applications of the coal tar will answer for the season, which is as follows:—Raise a slight mound of earth around the trunk of the tree; wrap brown paper about eight or ten inches wide around the tree, making it fast to the tree with twine or wire close to the mound; turn the paper down so as to spread it over the mound, then apply coal tar to the paper. Moisture will gather from the mound under the paper, and thus prevent the tar from drying, and not a moth can get to the tree. After the worms have fairly commenced at the foliage of the tree comparatively little can be done to arrest their ravages. It has been claimed, however, that by throwing new slacked lime on the trees when the dew is on, very many will be destroyed; and a farmer living in Winnebago county, in this State, says he trained his hens to follow him into his orchard, and when he shook the trees and the worms came down on their silken threads, the hens feasted upon them, and that, while his large flock of hens grew fat, the worms were very materially checked in their operations. No person owning an orchard in the vicinity of where these worms are working this season, should neglect the use of the coal tar next spring, and by one united effort this pest of the orchard (overshadowing in importance all other enemies of the orchard combined) can be exterminated.—E. F. Curtis, in Chicago Inter-Ocean.

DIGGING HOLES FOR TREES.

The practice of digging holes for the reception of trees far below the surface into the subsoil, and filling up the same with lean and vegetable refuse, is rather to be avoided, for several reasons. Such holes, especially in heavy clay soils, are apt to become huge flower pots, without the usual facilities for drainage. The water in them becomes stagnant, and unfit for nourishing the tree. Again, as soon as the lower roots have extended beyond the "filling in," and into the side walls, which they will do by the second or third year, the change in the soil is so sudden and marked as oftentimes to affect the roots very injuriously. The surface soil for such planting, when shallow, may be made a little deeper than it naturally exists, and the subsoil may be loosened to a considerable depth and again, it may be shovelled out and thrown in again, with a very little loam mixed with it. The walls of the opening should not be made with a clean, smooth cut, as in sinking a well. Let them be jagged and irregular, so that the roots, as they grow out into them, may not be subjected to any very sudden change in the soil. [The soil would be better if prepared

one or two years before planting by thorough, good, deep ploughing or digging and enriching.—As T. Ed.]

WASH FOR TREES.

C. C. Cooley gives the *Country Gentleman* what he calls "the best wash for trees to be found in the world."—"Take sal soda, which can be had at retail at from three to six cents per pound; place it in a skillet on the fire. It will soon go to what seems to be water, evaporate, and leave a white powder. Keep it on the fire till it becomes a light brown, when it is done. Use a quarter of a pound, or, if the trees are much covered with moss, or are very dirty, use half a pound to the gallon of water. Wash the trunk and large limbs, using a sponge or cloth. It can be used at any season of the year. I prefer in winter. This wash will not injure the foliage of the tenderest plant. In a few weeks after using the trees will look as clean and sleek as though they had been varnished, and the trees will astonish you by their growth and healthy appearance.

SALT IN NURSERIES.

Willard, of the well-known nursery firm at Geneva, New York, informs us that they have found very great advantage from the application of salt to their nursery grounds, as well as to farm crops. Twenty bushels to the acre is their usual quantity, and they use about 700 bushels per annum. Their facility of access to some of the salt-works in that State, gives them a chance for a full supply at low rates—about 25 cents per bushel—at which they consider it a cheap manure. It has also proved with them a very valuable application to pear trees, at the rate of about four handfuls to each tree, spread about. It seems to give a vigorous and healthy growth, and they are very rarely troubled with blight.

THE CONNECTION OF FOOD WITH VITALITY.

The past remarkable winter ought not to pass into mere history without our learning more from it than most of us have done. In other sciences, the rare incidents are eagerly looked forward to, as furnishing the best materials for the advancement of knowledge. Thus eclipses and the various conjunctions of the stars never occur but humanity is the gainer; and even terrible eruptions of volcanoes or earthquakes, with all the evils that follow in their train, also serve to furnish man with new facts which make him more secure against these and other dangers. There is no better evidence that horticulture is not a science it should be, than its failure to profit by remarkable events as a true science should do.

However, if we have not the scientific students we might have, there are some facts in the past winter's experience so clear that we may not ignore them. We have in former articles shown how it was drought and not the absolute degree of frost which injured plants. That it was not frost that we have had much more severe frosts without anything near the same bad results following. But there are some cases which do not seem to accord with a drought theory. Two trees, for instance, stand together in the same soil; they are of the same age, and one would suppose drought should bear equally on them. But one is taken and the other left.

After all, it is not altogether a question of moisture in every case. Thirst kills animals, but hunger has also a fatal effect; and while there is no doubt that the immediate cause of death in trees last winter was a loss of moisture more rapidly than the roots were able to supply, yet it is clear that the ability to furnish moisture under these unfavorable circumstances in a great measure depended on the richness of the soil in which the plants are growing, or the vital condition of the plant, as regards its power to make use of its advantage.

There have been some interesting cases proving this point, in regard to mere moisture.—The writer saw in the spring a small hedge of the new Pyracantha. The demand for cuttings was pretty heavy last fall, and the most of the hedge was severely pruned, a small portion of the hedge only remaining untouched. This small portion, in common with many other wholly hardy things, was severely injured, but the trimmed portion did not lose a bud, but pushed out new shoots from every one. There cannot possibly be any other explanation here than that in the last case there were not near as many evaporating points through which to carry off the moisture.

In regard to vitality also, there was met with a very interesting incident. Early in the season of 1872, it was decided to transplant every other one of some twenty inch Norway Spruces; but through pressure of other work this could not be done until the middle of June. These transplanted plants grew well and apparently remained in perfect health; as much

so as the untransplanted ones alongside of them. But in spring all of these were terribly injured, the others not in the least. The plants were in every respect the same, except the shock to vitality, which always takes place at transplanting.

In regard to the matter of food. There is scarcely an instance in this vicinity where American arbor vitas, hemlocks, Norway spruces, or firs of any kind, stand where the concentrated wind could whistle round a north-east corner, that the plants were not utterly destroyed. But we have seen several instances where arbor vitas have been used as screens for dung yards, and other places where the soil was extra rich, and these in the direct way of the keenest of cold currents, without any injury whatever; and always it has been the trees in the poorest soils, which, all other things being equal, have suffered the most.

We will not here multiply instances, but give at once the conclusions arrived at after a very careful study of many apparently contradictory facts furnished by the past winter:—Trees are killed by evaporation in winter time in precisely the same way as they dry out in summer. Trees or parts of trees lose their moisture in the winter time in proportion as their vitality may have been injured by previous circumstances. Trees which have the best opportunities to get all the food they require, are harder than those which have but a limited supply.—Gardener's Monthly.

THE CODLING MOTH.

Mr. Oliver Chaplin's mode of destroying this insect (according to a statement in a recent number of the *Country Gentleman*) is to thresh the branches bearing the infested fruit. This, doubtless, is a good suggestion, and may prove of great value, but our experience in regard to "striking the limbs with a pole" is that the bearing twigs are more or less bruised and injured by this operation, and, besides, the sound fruit is unavoidably knocked off with the wormy.

Our plan would be to provide a light pole with a fork or crotch at the small end, made by sawing off the prongs to the length of four or five inches. This crotch should be padded with old hat-leather, or something of the sort, tacked on, and in using the instrument place the forked end among the branches, and tap the lower end with a hammer or wooden mallet.

It is believed this mode would not injure the bark of the limbs and the sudden jar would be much more general and effective than if struck with a pole, which must be injurious to the bearing wood of the trees. In regard to the fruit containing the worm, it will all or nearly all fall off naturally with the early broods of the insect, and if promptly removed, by hogs or by hand, the same result will follow. The advantage of Mr. Chaplin's plan is that the thing is done at once and with much less trouble, and may be repeated if necessary without much cost.—Cor. *Country Gentleman*.

DISTANCES FOR FRUIT TREES.

This subject was discussed lately by the Ontario Fruit Growers' Association, and the conclusion came to was this, that the most suitable distance for apple orchards was thirty feet each way; but in case of using kinds which did not have spreading heads, such as the Early Harvest, Duchess of Oldenburg, Northern Spy, &c., these might just as well be planted more closely, say twenty feet each way.

Close planting should be the rule in more northern localities; and those who had practiced it together with low training had been uniformly successful.

One grower advocated the quincunx form, or planting the trees thirty-three or forty feet each way, and then planting one in the centre of each square formed by every four trees.

At the same time the uniform testimony seemed to be in favor of six feet as the proper height of training branches of fruit trees from the ground. If the branches come any lower than this they impede cultivation, and the weight of fruit and leaves bend them over to the ground, affording considerable inconvenience.

WASH FOR FRUIT TREES.

C. C. Cooley, of Adams Co., Ohio, in the *Country Gentleman*, recommends sal soda in water as the best wash for trees. The soda is to be placed in a skillet on the fire, where it will dissolve, evaporate and leave a white powder, which will become light brown as the heat is continued. From one fourth to one-half lb. of this to one gallon of water is to be used. The trunk and large limbs of the trees are to be washed with this, using a sponge or cloth, at any time in the year. He claims that in a few weeks the trees will look as clean and as sleek as if varnished, and that they will grow rapidly.

APPLE TREE BARK LOUSE.

A correspondent of the *Country Gentleman* claims to have expelled the bark louse from an apple orchard by putting small pieces of whale oil soap in the forks of the limbs so that the rain would carry the strength of the soap over the limbs. Two years' application was entirely effectual.

might be given up almost entirely if this proposed economy were pursued. Maple willow, chestnut, and indeed almost all those of familiar growth at the North, might be utilized in this important art, to the saving of millions of dollars in this country yearly.

After the tannin is dissolved in the leaf cell, the strong decoction is ready for the vats. The pulp, thus deprived of a matter which prevents leaves from decomposing for a very long while, becomes an excellent fertilizer. Farmers make a mistake in gathering leaves into piles or mixing them with other manures, because it is a loss of time and labor, it is so long before they decompose and become food for living plants.

Thus, in contemplating the mechanism and the object of respiration, we have incontestable evidence of the positive existence of a power superior to ourselves, whose creations and whose laws declare that power to be a sovereign God.

PRESERVE THE LANDMARKS.

A matter of great importance to the farmer, and yet one which is sadly neglected, is the preservation of the government landmarks. Government surveyors establish eight "corners" to every section, and it is important to every one owning land that all these should be permanent. It is time that stakes which have stood eighteen or twenty years should be replaced. Not only are the section and quarter-stakes permitted to decay and get misplaced, but, very frequently, the "bearing trees" have been cut down, and the stumps "grubbed out." In a few years there will scarcely be left a government stake in the country; and now, when corners can easily be found, it is important that they should be preserved. If farmers would take a little time and plant stones at all the government corners of the section, much difficulty and vexation would often be avoided.

A large portion of our country is open prairie, and as there were no "bearing trees" in the original survey, it is difficult to find the old stakes; but there are hundreds of stakes that can now be found, that in three or four years will be lost beyond recovery. In the timber and grubby land witness-trees or stumps yet stand, and with the aid of the "field notes" lost corners can readily be re-established. When corners are established from other stakes, the old lines are often changed materially. For instance, a section corner in this town was established from the quarter-stakes, and afterwards, by means of the "field notes," the old stake was found two rods distant. Several different parties had dug for the old stake without success. There was but one "bearing tree," the stump of which was found with some difficulty, and several rods from where the old stake was found six inches under ground, it being some two feet in length. There are instances where the government surveyors made still greater errors in setting quarter-stakes; and if the corners are not preserved, the lines must change. Farmers are building new fences, planting out trees, and making improvements, which will yet be found out of place. For example: one man has set out a mile of willows, without the first rod being on the line. It only requires a few hours' work to plant permanent stones at all the corners of a section. This season of the year is the proper time to attend to this matter. If suitable stones cannot be had, cedar or burr-oak stakes may be used, and these should be inserted in the presence of three or four witnesses.—Minnesota Record.

FARM IMPLEMENTS.

The *Christian Union* (N.Y.), in a jocular vein, writes thus on this threadbare subject:—"We have resolved, for the present at least, to change our tactics regarding the care of farms. Hitherto we have, in common with agricultural papers in general, urged farmers to take great care of their tools and machines. We have even printed directions for oiling and painting, and storing, and the like. Now, however, we have abandoned that line of policy. The dealers in and manufacturers of such implements must live, and as we have some friends and acquaintances among them, we are convinced that we have been too forgetful of their interests. An editor says that during a ride of ninety miles which he took through an average agricultural district, he counted the following unhusbanded implements, namely: forty-four ploughs, twenty-three harrows, seven mowers, one reaper, with beater and platform as last used, wagons too numerous to count, and, in one instance, a set of harness hanging on a fence. The ploughs were mostly standing in the furrow where they had been last used. Such a sight as that gladdens the heart of the itinerant manufacturer, and is an example which ought to be followed by every tiller of the soil who wants a new set of implements. Farmers, attention! Do not rub linseed oil on your fork and shovel and rake handles; do not paint your ploughs and mowers; do not use any rust preventive on the iron and steel parts; and, above all, leave everything out of doors! You really have no idea how quickly you will possess a new set of tools, provided you can afford to buy them."

Raw onions halved, applied under the arms, in the hands, and to the bottom of the feet, will, it is said, speedily cure the small-pox.

MISSOURI.
urging your rural experience in their ADVOCATE, I send the crops and other agriculture in this great heat and dry t of the season, oats might compared with t, on the other hand, o sowed early on pro- e an abundant crop e fall wheat in this eceptions, was badly quality both rather ds are looking well; of the persistent at- e a fair crop.
e commencement of vere storms of wind west, which lodged all and made the prospect t; and agreeable. We t, in having purchased h did its work in a sfactory manner, even grain up clean. Not- riority of these har- d-rakes, one can ven- the spirit of prophesy eant when really effi- e the order of the day, e the value of land, hard-working farmer sonable demands now J.S.O. LEGGE.
9th, 1872.

H LODGE.
eds that I purchased ed, but the extreme e of the young plants. eautiful Balsams and you to come and see. e come on well consid- e nutmeg melons are e have ever grown. The e is the only sort that e growth is enormous, but e for vital service, death e itself. I can show you e. Yours, &c., JAMES BOLT, er to Bishop Hellmuth. 72.
bliged to defer several s until our next issue.

aneous.
HING.
relations, the function r of wonders. Because e process of inhaling and chest, it excites neither e respiratory apparatus, e phenomena are as pre- e. The lungs are two e on each side, of unequal e separated by a vertical e the bottom of the neck in e of the diaphragm. When one lung eained by the other. If e, ulcerated, or in any e for vital service, death e every living thing, from e vegetable kingdom, is just e atmospheric air as man. e their leaves. If torn eanguish and die. Were e grown apple tree placed e to have their edges e appear like a carpet, it e cover more than an e of the gigantic forest eigh to cover an area of e. One's own lungs afford e hundred square feet, it is eologists.
ing trees, it is an unphilo- e in the limbs so closely e are left. In that multi- e effort to live is a hard e an survive the violence, e of their breathing e each leaf imbibes carbon e wood, while the other e keeping the atmosphere e, which supports life, e could reign triumphantly. e contain a large amount e called tannin. When e about by the wind, if e what is needed for tan- e now extremely expensive,

The Provincial Exhibition.

The Provincial Exhibition just closed at Hamilton has been well attended by visitors. The Stock department was, on the whole, superior to that of any previous Exhibition held in the Dominion. The quality of the implements exhibited show many improvements. The season has not been quite as propitious as in former years for the growth of cereals, roots, fruits and flowers, still the display was creditable.—The interior of the main building, devoted to arts, manufactures and small articles, was not so well filled as we have seen it; perhaps it struck us in this light because the additional buildings have been erected, giving more space.

The next Provincial Exhibition is to be held in the City of London. The Board has decided not to hold the ploughing matches this autumn previously spoken of as to have been held near Belleville and near London. As our paper is ready for the press, we must defer further particulars for future numbers.

AGRICULTURAL COLLEGE.

The following little item, which we extract from an agricultural exchange, will not fail to be of interest to some of our farmers. They are promised great good from the proposed undertakings by the government of the Province to promote the interests of agriculture. If they are sincere in their professions, and these are the interests they intend to serve thereby, let the patronage and management be different

Editorial Notices.

SEWING MACHINES.—Of all inventions, these really useful and labor-saving machines are of the greatest value to every family. To see a lady working one of these machines and note the neat, rapid and accurate manner in which everything is done, almost makes one wonder how clothes ever got made in the days when sewing machines were not. The question with many is what machine to buy for the best, and this is really a difficult question to answer, so many different machines are made, and each one claiming to be the best. In our house, and also in many of our friends, the Lockman machine is the favorite, as being a really simple, useful and good family machine, easy to work and not liable to get out of order.—See advertisement in another part of this paper.

[The above, with several other interesting articles, was crowded out of our last issue by press of matter.]

"THE STANDARD."—This is the title of a collection of Sacred and Secular Music, just laid before us. The collections of music, from their ever-increasing number, indicate truly the universal feeling that music has charms for all. Their

from that of the Maine Agricultural College:—

"A correspondent of the *Maine Farmer* asserts that 'of the whole Board of Managers, one possibly may be a farmer, while there are two lawyers, a merchant, a lumberman, and a United States official; men not identified with, or even practically interested in agriculture, who have the supervision and management of that school at Orono, wherein farmers' sons are to be taught 'what they know about farming.' The tendency of the whole matter is, as ex-Gov. Chamberlain predicted, that the college would drift out of agriculture into literature."

Canadian Progress.

As our readers must all feel a deep interest in the prosperity of our Canada, and in every section of it, we again give a column of our paper to the most interesting items on the subject culled from the various sources at our command:—

CANADIAN FISHERIES.—The *London (Eng.) Standard* thus speaks of the value of this branch of our national industry:—"Possessing an immense seaboard, abounding in creeks, inlets, and excellent harbors, with the finest and most prolific fisheries in the world at their doors, with vast inland territories traversed in all directions by salmon rivers of inexpressible value, many of which would take in our largest rivers as mere tributaries, Canada is deeply concerned in fishing interests. Partially developed only as they are, our readers would perhaps be surprised to hear the amount of capital invested in them. During the past year the general capture exceeded eight millions of dollars in value, or hard upon two millions sterling. The amount of capital invested in boats, tackle, &c., is fifteen millions of dollars, and the number of fishermen employed is 87,000. . . . The inland fisheries have been pretty well abused and misused in every possible way, while, as if to point a striking contrast, some few rivers, which,

being within easy reach of Quebec or Montreal, are protected more or less for angling purposes, and which have abounded in a profusion scarcely ever known when the noble savage was lord of the wilderness upon their banks. The mischief, however, has been recognized, and has been dealt with at the hands of Mr. Mitchell, the Minister of Marine, and Mr. Whitteher, Commissioner of Fisheries, who are steadily carrying out a policy of amendments by re-stocking exhausted rivers through the aid of a pisciculture, the opening up of dams by means of fish passes, and the compelling of a proper observance of a suitable fence time."

MANITOBA.—A great many immigrants have arrived, via the bonded line (U.S.), but none have yet arrived by the Dawson route. The Red River, between Fort Garry and Pembina, is a grand farming district. There is an amount of large oak, white ash and poplar. There are thousands of acres of bush; and a great many natural drains or ravines to carry off the water from the land, and there are plenty of fish and fowl in this section. Mr. Macaulay has started a lumber yard, and has all kinds of dressed lumber, shingles, doors, window sash, siding, fence lumber, moulding, cornice and flooring, besides about 400,000 feet of inch and plank lumber. It is of as good quality as I have ever seen. There were also 1,000 poplar logs, the largest imaginable; they would nearly average 400 ft. per log. About 5,000 pieces of flatted timber now lie on the shores at Winnipeg for market, and sells at from 15c. per foot, running measure. Thousands of cords of wood have been brought down the Red and Assiniboine rivers, but is mostly all sold. It sells at \$5 per cord. Brick-making is carried on to a great extent. Out in the prairie are to be seen hundreds of cartloads of furs, from the Saskatchewan valley.

BRITISH COLUMBIA.—From the papers of Victoria, Vancouver Island, we learn of the progress of that distant province of the Dominion. A bridge which is being constructed over the Navarino river is the first of the kind built upon the Pacific coast; it is 160 feet long, exclusive of the approaches. Including these, the

cost will be \$40,000. Post-offices are being established throughout the province. A mail service and post-office have been organized for the North Arm. Instructions have been given by the Canadian government to Messrs. Fawcett and Richardson and party to examine the anthracite coal mines, and report on their value. The work of constructing the Puget Sound telegraph is progressing rapidly. The line will cross Hood's canal, with a span of one mile and three quarters, said to be the largest in the world.—From five bushels of wheat sown by Mr. Chadsev, of Sumas, on the mainland, near the mouth of the Fraser, one hundred bushels have been harvested. The heads averaged 70 to 100 kernels each.

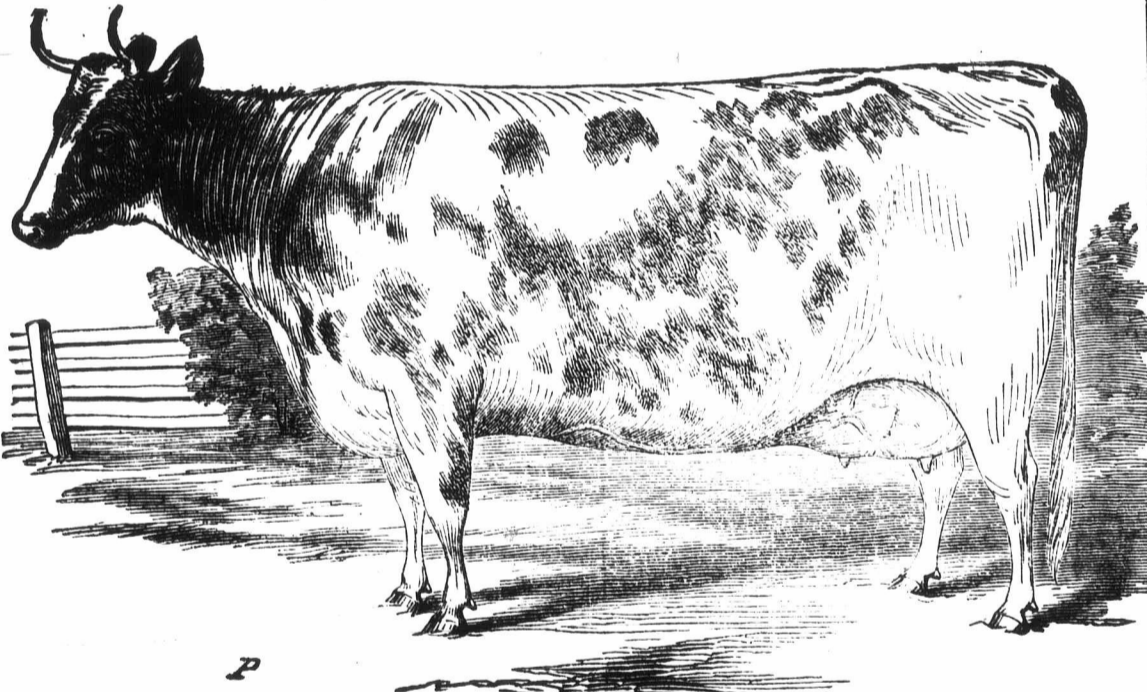
EMIGRATION.—From the Report of the Minister of Agriculture for the Dominion, we learn that the total number of emigrants that arrived in Canada last year was 37,620; and that immediate employment had been found at high wages for all accustomed to work. The Report thus predicts hopefully of next year. For the emigrant of next season the prospect in this Dominion is very encouraging. It is no exaggeration to state that an unlimited number of farm labourers, ploughmen, farmers, and female servants, will find immediate employment at high wages; whilst the marked development of the trade and manufactures of the country warrants the conclusion that mechanics generally will be in demand.

THE ACADIAN MINES.—It is said that Sir Hugh Allan has purchased the Acadian mines at Londonderry, N.S., for \$250,000. It is intended to greatly enlarge the works, and make it one of the largest, if not the largest, establishments of the kind in the Dominion. The great proximity of the mine to the extensive Springhill coalbeds, and the facilities for cheap transportation, will make the business most profitable. Nova Scotia should be the Pennsylvania of the Dominion. It needs only a few such men as Sir Hugh Allan to develop its great resources, and make it the manufacturing centre of Canada.—*Telegraph*, St. John's, N.B.

number is, indeed, legion. Among them, we are of the opinion that "The Standard" will hold no secondary place, if we are to judge from the cursory view we have been able to give to its contents. The collection of Anthems we appreciate very highly. The work is by Mr. E. O. Emerson and Mr. H. M. Palmer, names well known in musical circles.

THE MUSICAL TIMES, of Rochester, N.Y., for July is an unusually interesting number. It contains a very full and graphic account of the Great Boston Jubilee, written by an eye witness, as the stirring scenes and incidents occurred. It also contains an interesting variety of local and miscellaneous reading, besides several pages of new music. It is a wide-awake music paper, interesting and reliable. Send 10 cents for a specimen copy, or \$1 for a year's subscription, to the publisher, J. P. Shaw, 43, State-street, Rochester, U.S.

TO MANUFACTURERS AND OTHERS.—Mr. Jos. Connell, of Ashner, who is a travelling agent for Hugh Turner, informs us that he has sold four hundred of imported ploughs, manufactured by the celebrated maker, Grey, of Scotland. We intend procuring some for our patrons.



ROSIE, THE PROPERTY OF N. S. WHITNEY, ESQ., MONTREAL.

Rosie, the Property of N. S. Whitney, Esq., Montreal.

The above cut, we presume, represents what most probably is the finest Ayrshire cow on this continent. She carried off the first prize at the Highland Society's Exhibition, at Perth, Scotland, in 1871; she also took four first prizes the same year at the principal Ayrshire stock exhibitions in this country; she was then four years old. She calved on the voyage to this country, producing a very fine bull calf, one that is not easily excelled in any country. Her calf is now one year old, and any one wishing to procure the best to be had should by all means see this fine animal before purchasing.

During the past summer we paid a visit to Mr. Whitney's stock farm; it is situated at Frelighsburg, about fifty miles from Montreal, in the Eastern townships. His farm is most beautifully situated, being on

the hills near the mountains of the State of Vermont. The scenery is most charming; a view of forty miles distant is obtained from his verandah, and on three sides can be seen the mountains and valleys beautifully interspersed. His farm, although at an altitude of perhaps two or three hundred feet, had even a swamp in it that required to be drained. The water is good and abundant, the soil is of good quality, but a few large rocks are to be seen here and there, which, however, are of no great detriment. We were surprised to find in this section of the country such fine farms, and the more so to see the grape growing luxuriantly, and corn succeeding so well. From what we have seen and heard, we find that vegetation is earlier here than with us in London.

On our visit to this farm, we were fortunate enough to find Mr. Whitney and family at home. Mr. W. is one of the Montreal merchants, but instead of expending his money in removing his family

from the city to the different watering places in Canada and the States during the heated term, he removes to his Canadian rural residence and appears to thoroughly enjoy himself among his crops and stock. He has attained a very high position as a breeder of Ayrshires; he confines his attention to this class of stock, and we are fully convinced that the best way for a breeder to attain eminence is to confine his attention to one class. Dealers and speculators may have different kinds for sale, but the breeder will have quite sufficient to attend to to manage one class.

Mr. Whitney had his cows brought into the stable and placed in their proper stalls to enable us the better to inspect them.—No breeders' farm that we have visited has given us greater satisfaction. There were to be seen the different strains of blood distinctly showing themselves through the different generations from each original importation. It was pleas-

ing to see the distinct markings from the great grand dams to the calves, and each generation standing side by side. Mr. Whitney is looked on among the Ayrshire breeders as having the best stock procurable, as a gentleman of high honor, plain, sociable, and friendly. If any of our readers wish to procure a really first-class animal or to see the cream of our country in the Ayrshire line, we would by all means suggest a visit to Mr. Whitney's farm.

Independent of his stock, his arrangements for stabling we consider most complete, and to any one wishing to erect good, substantial, labor-saving and comfortable buildings, the trip would pay on that score alone. His arrangements for saving manure, both solid and liquid, are the best we have yet seen in Canada. His farm is not near as extensive as many others, but the management and arrangements are far superior to many that may boast of four or five times as much land.

VALUE OF

In a little published by delphia, the lows:— "Th hygienic or the animals not be cum attention to to its adva if the prese died. The arrest vege green food the severer inquiry and vegetables abundance, in the short to failure u ditions, an with a cap with slight appear to the turnip and, as n selecting pointed ou divisions, Britain th the turnip baya, or S land) has and it ha tical eco product v its annua represent debt—no knows. termed, land, and the reach vegetable always o resources shape are operative wealthy change h peity of indirectly of land immen: producti —thus p ingman's meat pr part in t the hard to wrest overcom Britain there on country vant use it is, it duce su of the f in our Rural E to our o food. number Aldem as regu acter, v rots, o conside events contrib wor-in and co ored in as well alone, rich in we do a suitable corn u food, t feed ro may s inclem tially argues and w do, th sure t viousl dure garde

Stock and Dairy.

VALUE OF TURNIPS AS FOOD FOR STOCK.

In a little pamphlet on "Turnips," recently published by David Landreth & Son, Philadelphia, the above subject is discussed as follows:—"The value of succulent food, in a hygienic or sanitary view, to man, and also to the animals which minister to his wants, need not be commented on. All who have paid attention to the subject agree in opinion as to its advantage, indeed absolute necessity, if the preservation of health be properly studied. The long winters of our country, which arrest vegetation, and oblige us to provide green food to be stored up in anticipation of the severer season, has necessarily induced inquiry and examination as to the class of vegetables which can be produced in greatest abundance, at least cost, with least exertion, in the shortest space of time, and least liability to failure under unfavorable atmospheric conditions, and also as of primary importance, with a capacity for preservation for months with slight danger of decay. These qualities appear to be united in a remarkable degree in the turnip—hence its very general culture; and, as naturally follows, the importance of selecting the varieties which experience has pointed out as better adapted to geographical divisions, and special purposes. In Great Britain the culture of bulbs, more especially the turnip (in which we here include the *rutabaga*, or Swede, though not so classed in England) has assumed really gigantic importance; and it has been estimated by writers on political economy, years ago, when the turnip product was much below the present, that its annual value was equivalent to the sum represented by the interest on the national debt—no inconsiderable amount, as everybody knows. Until the culture of roots, as they are termed, was extended and enlarged in England, animal food was a luxury seldom within the reach of the operative classes, with whom vegetables and farinaceous compounds, not always of the best quality, were the reliable resources for sustenance. Now, meats in some shape are within reach of all—the poor factory operative, the industrious mechanic, and the wealthy landowner, alike participate; and this change has grown out of—not national prosperity or increased wages, though both are indirectly affected, but—the greater breadth of land in root-culture, which has so largely, immensely, it may be said, augmented the productive capacity of the acreage under plow—thus practically bringing food to every working-man's door. Indian corn—with its great meat producer, which has played so important a part in the civilization of our country, enabling the hardy emigrant from the older settlements to wrest the wilderness from the savage, and overcome the forest—is not a product of Great Britain or any portion of the north of Europe; there only being known as an import from our country. In this particular, we have an advantage impossible to estimate; but, great as it is, it should not lessen our exertion to produce succulent food, which augments the value of the farinaceous. For many years we have, in our various publications, especially "The Rural Register and Almanac," given expression to our conception of the value of roots as stock food. Our own working stock, at present numbering fifty-six head, and a small herd of Alderneys kept for the family dairy, we aim as regularly to supply with food of that character, whether it be turnips, mangolds, carrots, or beets, as with hay; and we should consider it most unfortunate if untoward events should deprive us of the ability thus to contribute to the health and vigour of our working force, or the secretion of rich milk, and correspondingly rich butter, as high colored in winter as that from grass, and almost as well flavored. That turnips, singly and alone, will secure health, and strength, and rich milk, we are far from maintaining; but we do contend, that, in proper proportion, in suitable condition, at proper times, mixed with corn meal, shorts, oil cake, or other farinaceous food, they will produce invaluable results. To feed roots of any kind in cold stables, or what may sometimes be seen, in the open air in inclement weather—the roots, perhaps, partially frozen—and expect favorable results, argues, to say the least, want of reflection; and where we find people say, as we sometimes do, they "can see no good in roots," we are sure to find, on inquiry, that some of the obviously rational and necessary rules of procedure in feeding had been neglected or disregarded."

MAKING BUTTER.

It is the scrupulous neatness in washing milk-pails and pans, in the management of the cream, in churning and packing butter that secures an article that will pass for prime gilt-edged, which always commands a remunerative price. I wish to impress on those butter producers who always complain of low prices, the eminent importance of observing only a few things which will enable them to make an article which may be forwarded to any of our fashionable hotels, where every pound will command the highest price.—1. See that every milk-pail, pan, churn and butter-bowl is cleaned with boiling hot water every time it is used.—2. See that the udders of the cow and the hands of the milkers are as clean as pure water will make them, before an atom of milk is drawn.—3. Provide a neat and clean place for the pans while the cream is rising, where the pure breeze from the green fields may blow into one window over the cream and out at an opposite opening. Good butter can never be made in a filthy apartment, where there is offensive effluvia arising from anything, no matter what.—4. Cream ought to be churned every day; yet, if one can provide a clean corner in a cellar or milk-room clean and cool, and keep the pail on a clean piece of flagstone, he can make superior butter by churning twice per week, providing the temperature of the cream is maintained from day to day about 60 degrees of Fahrenheit.—5. Always skim the milk soon after the cream has risen.—Thousands of barrels of cream are ruined for making gilt-edged butter, by not skimming the milk soon after all the cream has risen. The sooner the cream is removed after it has risen, the better the butter will be. Milk which should be skimmed at evening is frequently left till the morning, when the cream will be injured to such an extent that gilt-edged butter cannot be made from it at all, neither will it make as many pounds as if it had been skimmed at the proper time.—6. Let the churning be done by a person whose hands and clothes are as clean and sweet as a blossom of red clover; and let the churning be continued until the butter has come. It is ruinous to butter to put cream in the churn, as is sometimes done, and churn rapidly for a minute or two every hour of the day, then in the evening all take hold in turn, and keep the cream dashing and splashing until midnight. If the cream is properly managed, butter will always come beautifully in less than half an hour.—7. The butter should be worked and thoroughly salted soon after it is churned. There is but little danger of salting too much. One ounce per pound is not enough for butter that is to be shipped any considerable distance. It is ruinous to the grain of butter to throw it into a dish pan and knead it with the hands. The best instrument for working out the buttermilk is anything that will cut deep gashes in the butter, into which the buttermilk will flow. The next day after churning the butter should be worked again, and packed. A great many persons continue to work and knead their butter to its great injury after the buttermilk is removed, thinking that all the "crystal tears" which are not buttermilk must be worked out.—8. Thousands of tubs and firkins are received in New York market containing what was once prime gilt-edged butter, but which was spoiled by being packed before the tubs had been prepared by being soaked in brine. For the sake of saving three cents worth of salt for preparing a strong brine in which to soak a firkin two or three days, many a frugal housewife has been obliged to accept half the price of prime butter, simply because the staves were not saturated with brine before the butter was packed.

FEED FOR THE DAIRY.

A correspondent at Litchfield (says the *Utica Herald*) writes:—"The milk of our cows which graze on upland pastures is said to produce on a ratio of 125 to 100 of that of other and lowland ranges. The same is the case with other factories, as we know. Where pasture on uplands is abundant, both quantity and quality of the product of the dairy are improved, the quality in particular; and this is important, as we all know that quality is a leading element in the market. Now, as all pasture cannot be on elevated land, it is to be presumed that some inferior cheese and butter must be made, the latter in particular. But this, we are glad to know, is not necessarily the case, or to but a small extent. The most is in the soil, and not in the difference of locality with respect to height. A wet soil on an eminence will produce rank, sour feed, which is not favorable to the dairy. So on low land, a well-drained soil, as we sometimes

find, will produce sweet grasses. This is the case with level ranges where the soil is well and deeply cultivated, so that no excess of water remains in the ground. Here we find some of our sweetest and best herbage. A low valley, very rich, and subjected to fogs, will not grow a desirable feed for the dairy, though even then, if the land is well drained and the grass cropped close, so that a tender herbage is secured, somewhat like the early or June growth, there will be little that is objectionable. What we want is the youngest and tenderest grasses. This for butter and for milk. For quantity and not quality, we find clover superior to all the grasses. Our observation is, that cattle will thrive both in flesh and in the production of milk upon clover when advanced, even when in blossom. The best results at this stage have been obtained. But the quality (of the dairy product) is inferior to what the grasses produce; not, however, to a greater extent—not comparable to that of turnips, carrots, beets, &c. We mean by clover the red variety, and the medium more particularly at that. White clover we have found equal to the tenderest of grasses. Indeed, in a moist, rank-growing season, white clover is often our main reliance for quality, and we may say not much, if any, inferior in quantity of production. But red clover, properly managed, will yield double and more the quantity of feed obtained from white clover and the grasses. This fact cannot be ignored. As it yields a fair quality of dairy product, it will be at once seen that it is for the interest of the dairyman, where his land is favorable for clover (and most soil is), to engage in its growth. It is even a superior feed for winter, but only when secured in its tender blossoming state. This is somewhat difficult, but it can be done with the proper appliances.—Orchard grass has its claims; so have other f. rage plants. Profitable clover, properly managed, is our most profitable feed, summer and winter.

VALUE OF SHEEP.

The high price of wool this year, and the great demand for sheep or lambs for meat, has made many a farmer wish he had a flock of sheep. The price of wool for a few years back has been so low and fluctuating that it has led the farmers to kill off their sheep, and just the same results follow that have in years before; they find, when wool advances, they have no sheep on hand. We have advocated high prices for wool, advising the farmer if he had any and could afford to hold it, not to sell. Although there has been a little depression in the market, we still adhere to the view that the woolen mills during the coming season will be large buyers of domestic wools; and we notice the reports from foreign markets show great firmness abroad, arising from the same causes that prevail in this country—shortness of supply. Nor do we think, with the growth of business in our country, will the supply, for several years to come, exceed the demand for a medium grade of wools, which are the staples grown here.

The question of raising sheep for their meat is not an unimportant one; with the growth of the country the consumption of eatables increases, and the favorite meat now, and that which brings the highest price, is lamb, and with an increasing interest in it, as the most wholesome and palatable of all meats, it is already getting so scarce and high that it has to be purchased only as a luxury by those who can afford it. We have spoken thus far of the demand of wool and mutton at a price that will pay largely for sheep-raising. Their value to the farm is not, perhaps, fully understood. It is an old proverb, "whenever the foot of the sheep touches the land it is turned into gold." Sheep will enrich land faster than any other animal. On the mountain pastures they are valuable in clearing up the land, freeing it from weeds, shrubs and briars, and bringing it to clover and nutritious grasses.—They are easily raised and cared for both in summer and winter. The risk of loss by death is small, and if well managed, sheep will not die in debt to the owner. If it dies at birth it has cost nothing. If it dies the first year, the wool and pelting is worth all it has cost up to that time. Sheep husbandry has a value to make the land more profitable, more productive, at a less expenditure than any other animal kept on the farm.—*New England Homestead.*

THE SECRET OF GOOD BUTTER.

Everyone knows how superior is the reputation of Philadelphia butter, and many have been the attempts to account for it. Perhaps the most popular notion was, that it was due to the prevalence of the "sweet vernal" grass in our pastures and hay-fields—the grass which often gives so peculiar a fragrance to meadow

hay. But it needed very little reasoning to demolish such a theory as this. The grass is one of the poorest for hay or pasture purposes, and scarcely exists, except on cold, clay lands, in partially shaded places, near groves or low woods. Yet while this grass is the exception, indeed the very rare exception, in low pastures, and in the hay fed to our cows, good butter is the liberal rule in all our markets.—It has long been the opinion of our agricultural generalizers of facts that we owe much more of the sweetness of our butter to the abundance of springs and spring houses in our State, than to anything peculiar which grows in our pastures. Milk has a peculiar affinity for any odors in the atmosphere, and water has some, hence whatever impurities may get into the atmosphere of the spring house is drawn out by running water, and every security is provided against their being absorbed by the cream. We notice this now through observing an inquiry whether the light of a kerosene lamp in a dairy could possibly affect the quality of the butter; we should answer most decidedly in the affirmative. All odors of every description should be carefully avoided if the very best brand is desired. There is one little incident in this reputation of Philadelphia butter which must never be forgotten. The followers of Penn have made up a large class of our original farming population. With these people cleanliness was especially one of the virtues. It was not a mere sentiment that it was "next to godliness," but an every-day testimony in all they did. Aided in these cleanly practices by their numerous springs and spring-houses, we have little doubt we owe to them as much as to any other circumstances the eminent character which Philadelphia butter enjoys; and we believe that if other quarters would give especial attention to these little niceties as good butter might be had in any part of the Union as here.—*German town Telegraph.*

SHEAF OATS FOR FORAGE.

In answer to the inquiry, "What shall we grow in the place of corn fodder?" I would suggest the sowing of oats pretty thickly, and cutting when first in the milk, so as to have them saved as green and full as possible; store them under cover, and it will be found that more good food can be raised to the acre than of any other known grain or grass. That oat straw is of great value has long been proved, and allowed to be of nearly equal value to hay when cut green—adding to its grain, say fifty bushels to the acre, would give nearly a ton of the best of feed, on which not only does young stock grow thrifty and large, and the condition of work horses improve, but with bran or meal it is one of the very best things to feed to cows for milk or butter. Having a certain amount of milk to supply dairy last fall, I used every means to keep up the quantity and quality, and tried almost every variety of feed. I found positive evidence that corn fodder was the worst of all, even at no cost, while sheaves of oats, cut green, were a cheap feed at forty cents a dozen bushels of average size. The corn fodder was good, full grown, and well cured, but I would not feed it to cows I wanted a good supply of milk from, if I could get it for nothing. The only feed I found superior to oats was clover, cut in first bloom and well cured, with four tons of corn and four quarts of bran once a day. "On this a fine supply of butter may be looked for, and a cow to do her very best. It may also be said in favor of oats, that they are easy to grow, nice to handle, and the most wholesome and nutritious food for stock, poultry and hogs included; are early harvested, and the land left in good condition for clover, which should follow.—*Colonial Farmer.*

CATTLE PLAGUE.

In France the "bovine pest" bids fair to become a chronic affliction. Month by month we have to record the existence of the disease, with but little alteration of details. In our report last month we stated that seven communes in the Department du Nord were infected; the number has now increased to 12, and this in spite of the measures of repression which have been adopted—measures which, we took occasion to remark, did not accord with the English notion of "energetic." Belgium continues to enjoy an immunity which, under the circumstances, is remarkable, and which is only secured by constant watchfulness. The *Journal Agricole du Brabant* every week denounces, in strong terms, the apathy which prevails across the frontier.—Russian Poland is reported to be free from rinderpest, and in consequence of the cessation of the disease, the *Official Gazette* of East and West Prussia has announced that

the prohibition of the imports of cattle and certain other articles of commerce from those provinces is rescinded. The exemption, however, it is distinctly stated, does not extend to Steppe cattle.—*Paris paper.*

TREES IN PASTURES.

A dairyman, who had a fine farm, without a tree in meadow or pasture, said to us last summer, when we asked him what had become of his shade trees, and why he did not plant some for his stock, that it was all nonsense to talk about the humanity, and especially the profit, of shade trees in pastures. He had shade trees in his pasture, but he cut them down. He found cows spent too much time standing in their shade whisking their tails when they should be feeding. Now they had nothing else to do but feed. Just then we called his attention to his herd chasing and goring each other in the liveliest manner. We asked him what that meant. He didn't know! We did. They were almost mad with the heat, and wild from the torments of the gad fly, from which they were trying to escape. Of course they became more heated from this lively exercise, and the milk, when drawn, was not in a healthful condition; nor was the quality of his cheese anywhere near first-class in reputation among buyers. And no wonder!—*Rural New Yorker.*

PLEURO-PNEUMONIA.

Holland has suffered rather severely from this ma'ady during the last spring. In four weeks, up to the middle of April, between four and five hundred cases of the disease were reported to have occurred in different parts of the kingdom, principally among stalled animals. The measures adopted to arrest the progress of the disease are very stringent.—All diseased animals are slaughtered, and those which have been herded with them are inoculated and isolated. If the owner objects to inoculation, he is compelled to keep his cattle from association with others for a long period, under the observation of the authorities. In Great Britain there has been no important change in the state of prevalence of the disease since the last report.

FOOT-AND-MOUTH DISEASE.

This affliction still prevails in Hamburg and its vicinity, and diseased animals have been landed in England during the last month from Antwerp, Boulogne, Bremen, Brehmer, Copenhagen, Coruna, Dantzic, Dunkirk, Hamburg and Rotterdam. Fresh outbreaks have occurred in Norfolk, Kent, Cumberland, and some parts of Scotland.

Horticultural.

STIRRING THE SOIL.

There is considerable emphasis put upon the benefit of stirring the soil; but there is an equal amount of incredulity connected with it, so that we see more weeds than clear soil; even in our corn fields, at harvesting, this is the case. The truth is, we work the soil as little as possible. There are some, however, who make it a business to be ever at it. These have not only clean land that does you good to look at, and really clean grain and grass, but heavier crops. They not only have grain and grass in the place of weeds, but the yield is much larger. To test this matter thoroughly, we applied unstinted cultivation to the garden. Omitting the manure (which was yearly applied), we relied upon the hoe and other implements for this purpose.—There was a constant play with the soil when the weather permitted, and it permitted it most of the time, as the season was one of drought. A fine, heavy, moist condition of the ground was the result, without the first sign of a weed or grass spire. It was soil, like sand or ashes, and vegetables. There was a steady growth, elaborating perfectly as it went; the hot sun, instead of hurting, favored the growth and quality of the plant. The plant food had acquired age and ripeness. The result was earlier maturity, and a greater growth than the years before and that of the neighbouring gardens; and this, let it be understood, with a light, sandy soil (on the border of the north woods of the Empire State), having not sufficient fertility for a fair crop under ordinary treatment. It was entirely satisfactory. Next, shrubs of various kinds, including the grape vines, berry bushes, young trees (ornamental and otherwise), were tested. The soil was subjected to the same treatment as in the garden. The effect was almost magical—an increase in growth carried on vigorously, and ripening well both wood and fruit. Whether the soil thus freshly thrown to the air had an increase in attraction for the fertilizing matter in it, or gave more chance for the air to circulate through it, or both, and whether there were

other causes, certain it is that there was an effect, and a most decided one. We computed the worth of the labor, and compared it with the estimated increase of fruit and improvement of quality, and we became satisfied there was a balance in favor of the work. This, where hand instruments were used—how, then, when horse labor is applied, as in field culture? We have seen corn tested in this way, by keeping (in a drought) the land almost constantly stirred, leaving occasionally rows for ordinary culture. The difference was equally decided with that of the garden and the shrubs. And the English accounts of cultivating wheat between the rows, prove that grain is not an exception. These tests but carry out the doctrine that working the soil is manure.

Horticultural Notes.

THE CURRANT WORM.

The *Boston Journal of Chemistry* says:—We are informed by Dr. E. Worcester, of Waltham, that the currant worm, so destructive to a favorite fruit, may be fully and almost immediately destroyed by the use of carbolate of lime. The doctor tried the powder in many instances during the past summer, and found that while it was full as effective as hellebore, it was less disagreeable, less costly, and perfectly safe. The method of using it is to sprinkle it over the vines as soon as the worm makes its appearance, bringing it well in contact with the leaves; and soon the pest is destroyed. It needs but two or three applications. In this way, for a few cents large quantities of currant bushes may be saved and the fruit allowed to mature, and no danger whatever be incurred. Neither the foliage or the fruit is in any way injured by the carbolate of lime. It will be well for our readers to remember this now.

THE ROSE SLUG.

Among the many uses which may be made of Paris green for the destruction of insects, there is none more successful than its application to rose bushes that are affected with the slug. Last year we applied it mixed with plaster, when the bushes were wet, and succeeded in saving our roses, but not until the foliage was much injured. This season we had watched carefully for the coming of this miserable pest, and had hoped to have escaped its depredations; but one sunny morning, after two days of constant housework, which had kept us entirely from the garden, we found it had commenced its deadly work on some choice perpetual roses and one beautiful young climbing rose which we had tended with special care. In our impatience we could not wait for rain or dew, but immediately put a tablespoonful of Paris green in a watering pot, added four quarts of water, and sprinkled the bushes thoroughly; after this applied Paris green and flour mixed in the same manner as for potato beetle; the following day repeated the same operations; twenty-four hours afterward not a slug could be found. The bushes are now covered with luxuriant foliage and perfect flowers.

The Horse.

FEED FOR HORSES.

It is remarkable that while agricultural societies have offered premiums to encourage the improvement of everything, from a rat-trap to a threshing machine, forage and root crops have been almost overlooked. Yet their importance is scarcely second to that of the human food supply, for without our domestic cattle we would be badly off indeed.—Of forage crops their culture is comparatively simple, and returns reasonably certain. Their yield is enormous; and where they form an important portion of the winter's food, the number of animals which can be sustained on a given area is very largely increased. Lucerne can be mown over from three to four times each season; we saw some fields in Great Britain on which twelve to fifteen tons to the acre of cured hay had been cut each season.

Roots as a food for stock are not only to be commended as one of the cheapest articles within the reach of our farmers, but because they maintain the animal system in that condition of perfect health, enable it to assimilate with greater profit and success the other and heartier foods which, under any system, will be given in greater or less quantities. As to their cheapness, those who have given the subject much thought, and who have had an experience which qualifies them to judge, range in their estimates from 5 to 6½ cts. per bushel of 60 lbs.; which does not seem im-

probable, considering that from 1,000 to 2,000 bushels per acre can be produced.

Most farmers will also find soiling cattle in summer to be very advantageous, especially where land is very high. It is not half the trouble most people imagine it to be. Fall sown rye, sown twice as thick as ordinary and in rich ground, will give a supply of rich food early in the spring, till orchard grass and clover, mixed, are ready for mowing. Oats should also be sown, four bushels to the acre, as early as the ground will admit, to come in after the first cutting of grass, and before the sown corn. This latter will be found to be the great staple crop of the soiling system.—The first sowing in drills, 3 feet apart and at the rate of 3 bushels to the acre, should be on or before the first week of May, and successive sowings should be made 10 days or 2 weeks apart. Sown Indian corn is a wonderful provision of nature as food for stock. An immense weight of it can be grown on an acre; it is eaten greedily and is most nutritious, promoting the secretion of milk more than any other kind of food. It abounds in saccharine matter. Any excess of it, not consumed by the cows green, can be cured for winter provender, and is better than any kind of hay.—*Stock Journal.*

CARE OF HORSES.

All horses must not be fed in the same proportions, without regard to their ages, their constitutions, and their work; the impropriety of such practice is evident. Yet it is constantly done, and is the basis of disease of every kind. Never use bad hay on account of the cheapness, because there is no proper nourishment in it. Damaged corn is exceedingly injurious, because it brings on inflammation of the bowels and skin diseases. Chaff is better for old horses, but do not give the latter alone, because it makes the horse chew his food more and digest it better. Hay or grass alone will not support a horse under hard work, because there is not sufficient nutritive body in either. When a horse is worked hard its food should be chiefly oats—if not worked hard, its food should be chiefly hay—because oats supply more nourishment and flesh-making material than any other kind of food; hay not so much. For a saddle or coach horse, half a peck of sound oats and eighteen pounds of good hay are sufficient. If the hay is not good, add a quarter of a peck more oats. A horse which works harder may have rather more of each; one that works little should have less. Rack feeding is wasteful. The better plan is to feed with chopped hay, from a manger, because the food is not then thrown about, and is more easily chewed and digested. Sprinkle the hay with water that has salt dissolved in it, because it is pleasing to the animal's taste, and more easily digested. A teaspoonful of salt in a bucket of water is sufficient. Oats should be bruised for an old horse, but not for a young one, because the former, through defective teeth, cannot chew them properly; the young horse can do so, and they are thus properly mixed with saliva, and turned into wholesome nutriment.—*London Horse Book.*

WATERING HORSES IN WARM WEATHER.

There is a warm controversy coming up in regard to the watering of horses in warm weather. At present this controversy is as a cloud no larger than a man's hand; but we are sadly mistaken if it do not come to be one of the most stirring questions of the day; one in the face of which even "Drilling versus Hilling Corn," "Deep Plowing," or any other illustrious subject of the past, will pale.—Several writers have of late suggested that watering horses while they are warm in summer is a very bad thing; others say that more suffer and are injured for the want of water in summer than from too much of it. The great centre of attack in this new line of thought is not Joseph Harris, although he is but one of several who has taken in hand the reformation of horse manners and customs in reference to drink. The theory of horsemen in general is, that it is an evil to perspire freely in warm weather, and that if little water be given them, they can perspire but little. "The more water we give them the more they sweat." On the other hand, the laboring man in the open fields tells us he is never so comfortable at work as when he is perspiring freely, and he takes his glass of cool spring water as often as he pleases. The argument from this is that what is good for the man is good for the beast. Perhaps so. We suppose the truth lies midway between these opposing forces. At anyrate, the discussion will do no harm to the poor dumb beasts in-

terested. Our own experience has been adverse to excessive watering. Even in the harvest-field we think moderation is advisable.—*Germantown (Pa., U.S.) Telegraph.*

AN EXPERIMENT IN FEEDING HORSES.

The London Omnibus Company use six thousand horses. To economize in feed is an important matter, and has led to several tests, the result of which is recorded as follows:—

To each of three thousand of their horses they gave a daily allowance of ground oats sixteen pounds, ground hay seven and one-half pounds, and cut straw one and one-eighth pounds—the hay and straw being cut into pieces about half an inch long, and well mixed up with oats in a little water, and so making twenty-six pounds of food for each horse. And to each one of their other three thousand horses they gave a daily allowance of whole or unbruised oats nineteen pounds, and uncut or whole hay or straw thirteen pounds, without any water, in our old fashioned way, making thirty-two pounds of this food for each horse. And what was the result? Why, it was soon discovered that the horse who was fed on the twenty-six pound of ground oats remained in as good a condition and could perform just as much work and do it just as well, too, as the horse did who consumed thirty-two pounds of food as aforesaid—thus showing a saving of six pounds of food per day in favor of bruised oats and cut hay.

SHOEING HORSES.

The *Colonial Farmer* gives the following good advice on this subject:—

It is almost impossible to get a horse shod without having the frogs cut away. All veterinary surgeons, all horsemen, all leading blacksmiths agree that the frogs should not be pared the particle—not even trimmed. No matter how soft and pliable the frog is, cut it away smooth on all sides, and in two days it will be dry and hard as a chip. You might as well cut off all the leaves of trees and expect them to flourish as to bare away the frog and have a healthy foot. The rough spongy part of the frog is to the foot what leaves are to the tree—the lungs. Never have a red-hot shoe put upon the foot to burn it level. Employ a blacksmith that is mechanic enough to level the foot without red-hot iron. The burning process deadens the hoof and tends to contract it. If you do not think so, try the red-hot poker on your finger nail, and see how it will effect the growth of that. There are many important points in shoeing horses, but these two are of more importance than all the rest, level to the apprehension of men not skilled in horses, and the two most disregarded.

LOOK TO YOUR HORSES' FEET.

Few men who handle horses give proper attention to their feet and legs. Especially is this the case on farms. Much time is frequently spent smoothing the hair on the hips and sides, but it is seldom the feet are examined and properly cared for. The feet of the horse need more attention than his body. All the grooming that can be done will not avail anything if the horse is forced to stand where his feet will be filthy. In such case the feet will become disordered, and then the legs will get out of fix, and with bad feet and legs there is not much else of the horse fit for anything. Stable prisons generally are terribly severe on the feet and legs of horses, and unless a horse can have room to walk around in the stable, he had better be turned loose in the pasture.

HEAVES IN HORSES.

A Michigan correspondent of the *Rural Home* gives the following remedy for heaves in horses:—Give once daily a teaspoonful of aqua fortis, prepared as follows: Mix it with a teaspoonful of sour or skimmed milk, and mix this with bran, and the bran with the grain fed. The catarrhal affections of the throat make rapid amendment under this treatment, and the correspondent referred to says he has known a number of cases cured by it. It should be continued, if necessary, until a pound of acid is given. Some of our subscribers have horses suffering from heaves; they may easily try the above, and report the result.

Entomology.

THE WHEAT WIRE-WORM.

We proceed to present to the readers of the *Advocate* essays on the insect enemies with which they have to contend. There have appeared in our entomological column articles on the Wheat Midge, the Chinch Bug, and the Army Bug. We now give extracts from an article on the Wheat Wire-Worm by the Rev. C. J. S. Bethune:—

"Curtis, no mean authority, makes the assertion that of all the insect enemies with which the farmer has to contend, there are none which are more fatal in their effects, and more difficult to overcome than the Wire-Worm. Certainly, when we consider the omnivorous character of the members of this family, the number of species belonging to it, and their general diffusion, we may feel inclined to agree with him. They attack every kind of production of the field and garden—fruits, flowers, grain, roots, grass, vegetables; nothing appears to come amiss to them. Over a hundred different species of this family are known to exist in Canada; a large number of them, however, are not especially destructive, but feed upon decaying vegetable matter, and may hence be deemed rather beneficial than otherwise. Still enough remain to give us trouble and deplete us of a portion of the crops that we are endeavoring to raise.

"Every one, probably, is familiar with the common species of Wire-Worms that are so frequently turned up with the spade or plough in farm or garden. They are usually of a pale yellowish colour with a darker head; the body is round, smooth, and hard, so as to be well adapted for penetrating the earth. After a long period of existence in the larval or worm state, they turn into beetles that are familiarly known as "spring-backs," "snapping," or "click beetles." From their possession of the singular power of springing up into the air when laid upon their backs, and thus recovering their proper position.

"The Wheat Wire-Worm, with which we are now more immediately concerned, has long been known to farmers from the harm it has frequently wrought in their fields of grain; it is only recently, however, that its natural history has been traced out.

"For the account of its larval and pupal stages we are indebted to an article in the *Canadian Entomologist* by Mr. Pettitt, a very careful and accurate observer."

Mr. Pettitt's article we omit, merely giving an abridgement of his researches and the result of his enquiries:—

Mr. Pettitt was led, from seeing the great amount of damage done to the wheat crops in the vicinity, to endeavor to ascertain to what species the destroyer belonged. He dug out and collected from the roots of the wheat plants a dozen specimens of the insect, and, having put them in a large flower pot, he there supplied them with food. They did not eat in winter, but on the return of warm weather gave evidence that they were still alive, and retained their good appetites unimpaired. The result of his very careful investigation was that the insect that had been so destructive to the wheat plants was a specimen of the Wheat Wire-Worm (*Agriotes Mancus*), and that the larval state does not last longer than three years.

"Westwood states," he says, "respecting the larvae of an allied species which in Europe feeds upon the roots of wheat, rye, oats, barley, and grass, that, according to Bjerhander, a Swedish naturalist, it is five years arriving at the perfect state. Curtis makes a similar statement on the same authority, and adds that those which he had himself been feeding for ten or twelve months scarcely increased in size during the time. Mr. Pettitt is, however, of the opinion that our species is by no means so long lived, but that it attains maturity in three years—a period quite long enough, the agriculturist must think, in which to inflict damage upon the crops.

"Wire-Worms are usually found to be most destructive in freshly broken up pasture lands, and during dry seasons. All sorts of remedies for them have been suggested and tried, but few are satisfactory. When a field is observed to be badly affected with them it ought to be ploughed up and kept in fallow for a season, taking care to keep ploughing it as often as possible and to burn up all rubbish, stubble, &c. This will destroy the eggs and starve out the worms. Lime and soot applied to the soil before sowing any grain are highly recommended by some, but are of doubtful efficiency. Salt on sandy soils is considered to be efficacious, but not on heavier clay lands. In a garden or small field they may be got rid of by strewing about slices of potato, turnip, or apple, and on examining the

under side every morning numbers will generally be found feeding upon the bait. Moles are very useful in destroying them in meadows, and a large number of our small birds devour them with avidity; ducks, turkeys and fowls will pick them up in ploughed fields, and toads are not averse to making a meal upon them.

"Our advice, then, is: break up and fallow the infested fields, ploughing up and burning up the rubbish, and encourage in every way the farmer's best friends, the small birds.—Make it an absolute law of the household that not one of them is to be shot or stoned; get your neighbors to do the same, and believe us, not many years will pass before you will find your insect plagues enormously diminished."

In addition we would merely state the result of our own experience in this matter.—We have tried salt as a remedy for the Cut-worm, and with the very best effect. We never knew that land to be again infested with them, though they had before committed great ravages on it. The soil was sandy, in which, as Mr. B. says, it is likely to be efficacious.

In such matters we, as old farmers, speak from experience. Soot we have also proved to be efficacious, but we have been able to try it only on a small scale in gardening. The advice given by Mr. B. is consistent with common sense and with every-day experience.—Ass't Ed.

Veterinary.

A CURE FOR POLL EVIL.

In reply to a subscriber's query—how to cure poll-evil, Mr. J. W. Wilson, Veterinary Surgeon, to whom we submitted our subscriber's enquiry, advises thus:—Have the sinews well opened up, so as to allow a free discharge; clean twice a day with soap and water; dress the wound with sulph. of zinc or copper. Sometimes it becomes necessary to use strong caustics; but in all aggravated cases, where the tumor is deep seated, it is well to apply to a properly qualified Veterinary Surgeon, who understands the anatomy of the parts, as there is great danger of wounding the ligamentum collis; and also by penetrating too deeply, there is danger of dividing the ligaments which attach the several vertebrae together, thereby letting the head drop. The spinal cord would also suffer, and death be likely to follow. [This advice of Mr. Wilson's came to hand too late for insertion in our last edition.]

RING BONE IN HORSES.

In reply to a correspondent, we must say that a ring bone, when once formed, cannot be cured. Let him pay no attention to those who tell him otherwise. From the very nature of the disease, he may easily infer that for it there is no thorough cure. Ringbone is not a cartilage or a little bone; it is a morbid enlargement of the bone. All properly qualified veterinarians agree that it cannot be reduced. The growth of the ringbone can, if taken in time, be prevented from becoming larger, and the lameness accompanying it may be cured; but this must be done when the horse is young, and the disease not fully matured, otherwise there is little use in attempting a partial cure. The use of the hot iron—firing as it is generally called—is the only remedy we have seen applied. In this process it is so necessary to act with all due caution, lest by burning too deep, we might make bad worse, that we would advise the calling in of a regular farrier.

FARCY REMEDY.

John McMullin's animal has farcy, and he gives one teaspoonful of coppers, once in two days, and uses good care in other respects. It will cure him. If it is of some standing, double the dose. This I have used, and seen used in several cases; and I have worked a beast for years after having the disease cured, and I know it to be sure—at least, it has cured three for me.—A Correspondent of Moore's Rural New Yorker.

Poultry

KEROSENE FOR HENNERIES.

Where lice are troublesome in a hen-nery, the use of kerosene will be found to answer an excellent purpose. If necessary, get a small watering pot and sprinkle it everywhere. We know of its being used in this way, and with complete success. It was also applied to the fowls by rubbing under the wings and among the feathers on the back of the neck, and the pests were effectually "cleaned out," without apparent harm to the fowls. For small chickens rubbed lightly with a feather about the head and on the neck, it is admirable, and it is there where lice can generally be found if they exist anywhere about the flock. One application of this sort will suffice for many weeks.

Careful observers will have noticed that there are several breeds of hen lice to contend against. The species that attack sitting hens in hot weather are very small, very active in their motions, and multitudinous in numbers. They will sometimes drive the hens from their nests, and become so numerous about the henery that visitors cannot enter without carrying off more or less on their persons. Their presence will be indicated by a delicate crawling sensation on the hands, the neck, or the body. Cracks and holes about the building will harbor millions of them at such times. For such a house, kerosene is the remedy. Apply it liberally from top to bottom, and if one application does not completely remove them, apply a second time. In applying to the chickens and fowls, be careful not to get any in the mouth or eyes; it may not prove fatal, but it will do no good. It evidently does not make small chickens feel lively, but it will not harm them seriously if they are well housed, or can get all the warmth they require.

We have not yet tried it in hen's nests, but have no doubt that if sprinkled through the hay or straw of which the nest is formed, it will answer a better purpose than the sulphur, or ashes in the bottom. It will positively kill the vermin harboring in the nests, while it is evident that dry sulphur and ashes are only disagreeable. Of course the effect of a single application will not last always, but one or two applications a year will probably be found to be sufficient, at least in henneries whose owners are not frightfully negligent.

The lice found on the heads and necks of young chickens are very large compared with those infesting the nests of sitting hens; and we do not remember to have seen them except on fowls. The touch of a small amount of kerosene infuses wondrous activity among them, while a good saturation evidently paralyzes. Nothing but their blighted remains will be found one day after a good application of kerosene.—Country Gentleman.

A common hen on ducks' eggs hatchep two. These, after the manner of their kind, coming near a pond, took the water. The foster-mother, after displaying every sign of anxiety and calling in vain, deliberately plunged in and swam across, pressing the little ones before her breast and drove them ashore. Seen by two creditable witnesses, and related by the *London Field*.

A writer in the *Poultry World* says his plan for curing hens of a desire to sit, is to put them in an open yard, where there are no nests or roosting places, and differing as much as possible in appearance from their regular quarters and feed them liberally with soft feed made rather hot with cayenne; give them plenty of cooked meat and all the milk they will drink.

LOW TRAINED FRUIT TREES.

Suel Foster, of Iowa, writes the *Country Gentleman* that western orchardists do not, of late years, recommend as low headed trees as they did ten or twenty years ago. From three to four feet as height of trunk he thinks is now more generally recommended. He says: "It is a good thing to have the top in the way of the plow, not the plow in the way of the tree."

Good Health.

IMPORTANCE OF BREATHING PURE AIR.

The supreme importance of good, pure lung food for all living beings—the tender infant, the delicate daughter, the robust man, and the old, bowed down with years—cannot be too strongly impressed upon the mind. Pure air is not only the best of all blood-purifiers, but it is the best preserver against ill effects from other impurities, and the best of all tonics for weak lungs. The idea, deeply fixed upon the popular mind, that the only way for the weak to gain strength is through eating and drinking, leads to the invention of an endless variety of tempting and over-nutritious dishes, and to the drenching of the stomach with wine and bitters. The practice is a most disastrous one.

Thousands to-day are suffering in this way, or by having their lungs both starved and poisoned, while the stomach is stimulated to its utmost, and gorged with rich aliments day and night. Yet such often remain pale, weak and thin, and quack doctors urge that more stomach bitters be taken to bring them out. They are also usually carefully housed, and directed to keep away from fresh air, from anything like a current, and are not allowed to take out-door exercise, except on the finest days, and then only for an hour or less each day, for fear of taking cold. Besides, the kind of exercise taken is usually unworthy of the name, for it too often consists simply in keeping quiet, in an easy posture in an easy carriage. This mode is quite proper for those debilitated by actual disease, but not for the thin, weak, or delicate, who desire to be made strong and healthy. Little by little, and day by day, should out-door exercise be increased, until the body becomes pure enough and strong enough to take care of itself. If the uniform half-starving of the lungs be long continued, even though the stomach be well supplied, the body gradually becomes weaker and weaker, and paler and paler, in spite of all the stimulants, all the tempting dishes, and all the care which art can devise and affection bestow. And so, in this way, a regular decline in health is established, or consumption developed, all on account of the unfortunate mistake in thinking that colds, weakness and consumption can only be prevented by careful housing and rich feeding.

Such a system is the very one to cherish and bring on such diseases. It develops them among animals which do not have them in a state of nature. It causes men and women to put large quantities of food into the stomach, which, if digested and carried into the blood, does not receive sufficient oxygen and sunlight to develop its strengthening power. It prevents the taking of exercise, to knit into firm fibre and nerve rich elements in the blood. It causes large quantities of nutritious matter to be arrested in its organization, where it must undergo decay, deranging the healthy action of the entire blood current, and producing active disease in some parts of the body, not only from the nutrition, but from the great labor put upon some organ to expel such hurtful matters from the body.

Perhaps the supreme importance of giving the lungs, day and night, an unlimited supply of pure air, cannot be better impressed upon some minds than by stating that after more than twenty years' observation of the causes which produce consumption, and a familiarity with the opinions of the best physicians of the day, I am firmly of the conviction that no one need have any fear of this disease if his lungs are only nourished on good air during every hour of life. The breathing of a pure air a few hours each day will not keep off the terrible destroyer, but the lungs must have this kind of air as often as nature requires it, and this, at the least, is sixteen times every minute.—From Dr. J. R. Black's *Ten Laws of Health*.

LOOK OUT FOR CHILLS.

The season is coming on when we may expect to be caught with a chill and ague in all localities where the causes for it exists. A few hints now may prevent many an ugly case, and save many dollars for nauseous medicines. Cold, damp and decaying vegetation, are the causes of this trouble which we can easiest see and understand. Except in widely scattered and very exceptional cases, fever and ague are known to prevail only in those districts where a large amount of vegetable matter is in a state of decomposition; and this occurs generally in times of drouth. But ague will be caused, and is no doubt often caused, by the decomposition of a very small amount of vegetable matter. In dry seasons, rotting wood and other vegetation, usually harmless because under water, is exposed to the atmosphere, which it poisons, and by the heat and rays of the sun is lifted from the lowlands to the vicinity of your dwellings. Moisture is an essential element in the manufacture of the ague poison; and the exposure of the person in a damp, cold evening, frequently wet with sweat from the labors of the day, in the vicinity of any swamp or stagnant water, is pretty sure to secure to any person the necessary seeds of the disease.

Another frequent, but not often-considered cause of this disease, may be found in damp cellars, often containing decaying cabbages, potatoes or other vegetables.—One rotten cabbage will poison a whole family. No rotting wood or decaying vegetables of any kind, or stagnant water, ought to be allowed about the cellar, house or any outhouse. Water closets should be far removed from wells, and should be thoroughly deodorized with dry clay, lime or chlorine. Every householder should see to it that the cellar is thoroughly cleaned every spring, and kept clear of all offensive matters. Don't stop with removing the decaying vegetables, but remove the loose dirt, sweepings, and decaying chips or straw. Open the drains in every direction, and let the standing water go free before the hot June suns convert it into the ghost of intermittent fever.

If the farm is in the vicinity of swamps or marshes, select a building spot three hundred feet above the swamp if possible, the higher the better; and get a location where the prevailing winds in summer will drift the malaria poison of the swamp away from you. An interval of green trees between the house and swamp is also some protection against the disease.

In point of clothing, dry, warm flannels, morning and evening, are the indications in this climate; and if the weather is cold, a little fire in the house is a good thing. If attacked with the disease, quit eating meat, and take something to rouse up the liver, followed with the inevitable quinine. Quinine and arsenic is the basis of all the advertised ague cures; but quinine is the safest and most reliable check to the chills.—*Williamette Farmer.*

GOOD ADVICE.

Never go to bed with cold or damp feet. In going into colder air, keep the mouth resolutely closed, that by compelling the air to pass circuitously through the nose and head, it may become well warmed before reaching the lungs, and thus prevent those shocks and sudden coils which frequently end in pleurisy, pneumonia, and other serious forms of disease. Never stand still a moment out of doors, especially at street corners, after having walked even a short distance. Never ride near the open window of a carriage for a single half minute, especially if it has been preceded by a walk; valuable lives have been lost or good health permanently destroyed by so doing. Never wear India-rubber boots in cold dry weather. Those who are easily chilled on going out of doors, should have some cotton-battening attached to the vest or outer garment, so as to protect the space between the shoulder-blades behind, the lungs being attached to the body at that point: a little there

is worth five times the amount over the chest in front.

TURPENTINE IN HEADACHE.

Dr. Warbuton Begbie advocates the use of turpentine in the severe headache to which nervous and hysterical women are subject. There is another class of sufferers from headache, composed of both sexes, who may be relieved by the turpentine. I refer to the frontal headache, which is most apt to occur after prolonged mental effort, but may likewise be induced by unduly-sustained physical exertion—what may be styled the headache of a fatigued brain. A cup of very strong tea often relieves this form of headache; but this remedy, with not a few, is perilous, for, bringing relief to pain, it may produce general restlessness and—worst of all—banish sleep. Turpentine, in doses of twenty or thirty minims, given at intervals of an hour or two, will not only remove the headache, but produce, in a wonderful manner, that soothing influence to which reference has already been made.—*Home and Health.*

KEEPING FRUIT IN OUR ROOMS.

We should be chary of keeping ripe fruit in our sitting-rooms, and especially beware of laying it about a sick chamber for any length of time. The complaint which some people make about a faint sensation in the presence of fruit, is not fanciful—they may be really affected by it; for two continental chemists have shown that from the moment of plucking, apples, cherries, currants, and other fruits are subject to incessant transformation. At first, they absorb oxygen, thus robbing the surrounding air of its vital element. Then they evolve carbonic acid, and this in far greater volume than the purer gas is absorbed, so that we have poison given us in the place of pure air, with compound interest. Temperature effects the rate of changes, warmth accelerating it.

HOT BREAD.

One of the most injurious dietetic habits of Americans is that of eating fresh bread, cake and biscuit. The Prussian government compels bakers to keep their bread at least one day before using. If Americans would follow their example, there would be fewer dyspeptics than at present. There is not one dyspeptic German where there is a dozen dyspeptic Americans.—This, however, is but one of many causes for this marked difference. The only fresh, hot bread that is wholly unobjectionable, is the unleavened bread, crackers, or gems.

EAT MORE FRUIT.

There can be no doubt that in the summer and fall seasons people who live mainly on fruit and berries and coarse bread can almost insure exemption from sickness, while those who eat heartily of solid meat and vegetables two or three times a day are liable to disease.

Useful Recipes.

SALT-RISEING BREAD—BISCUIT.

Put three teacups of water, as warm as you can bear your finger in, in a two-quart cup or bowl, and three-fourths of a teaspoonful of salt, stir in flour enough to make quite a stiff batter; this for the rising, or emptying, as some call it. Set the bowl closely covered in a kettle, in warm water, as warm as you can bear your finger in, and keep it as near this temperature as possible. Notice the time when you "set" your rising; in three hours stir in two tablespoonfuls of flour, put it back, and in five and one-half hours from time of setting, it will be well risen enough, and will make up eight quarts of flour; make a sponge in the centre of your flour with one quart of water of the same temperature as rising, stir the rising into it, cover over with a little dry flour, and put it where it will keep very warm, but not scald; in three quarters of an hour mix this into stiff dough; if water is used, be sure it is very warm, and do not work as much as yeast bread; make the loaves a little larger, and keep it warm for another three-quarters of an hour, it will then be ready to bake. While rising this last time have your oven heating; it needs a hotter

oven than yeast bread. If these rules are followed, you will have bread as white as snow, with a light-brown crust, deliciously sweet and tender.

Buttermilk Biscuit.—For six persons, take three cups of buttermilk, or good sour milk, one and one-half tablespoonfuls of soda, well pulverized, and the teaspoon only level full; three tablespoonfuls of melted lard, and a teaspoonful of salt. Dissolve the soda in the milk, then mix your biscuits quickly, working well, but do not let them stand; bake a bright brown in a quick oven, and you will have biscuit light, flaky, and white as snow. If cream is plenty, for extra nice use three cups of thin sour cream (or one of thick cream and two of sour milk), no lard, and the same quantity of soda. This is good for Graham flour, and the same proportions of milk, lard and soda, with the addition of two eggs, makes corn bread.—*The Household.*

FLIES AND BUTTER.

An experienced housekeeper tells a contemporary that flies may be kept out of a butter plate on the table by a simple and novel expedient—by planting in it a thin slice of bread, cut columnwise, and inserted in a perpendicular position. Whether the bread scares off the flies the lady cannot say; but she declares it certainly keeps them off. The above novel expedient we have found, on trial, to be effective. The flies alight on the column of bread, and cautiously explore the buttery foundation, only to fly away, overcome with suspicion and fear of a dreadful catastrophe, instead of their usual headlong method of plunging into the deceitfully enticing mass, without thought or care.

Two tablespoonfuls of spirits of ammonia in a basin of water, when washing, will prevent the disagreeable perfume arising from excessive perspiration.

COPPERAS is the cheapest and most effectual disinfectant known, and its application is simple and quite safe, with the precaution that it be not kept in a metal vessel unless of lead. For water closets, put one pound of copperas in eight quarts of water, and when thoroughly dissolved, pour it down water closets, sinks, sewers, or any place whence foul smells arise, when the smells will be at once destroyed.—Placed under the bed, dissolved in like manner, it will do away with all obnoxious smells.

Youths' Department.

UNCLE TOM'S COLUMN.

Well, children, I've got lots to tell you this month—plenty of fun—and I have to thank the many FARMER'S ADVOCATE children for sending me so many letters.

The first story is about eggs:—
A lady entered a store in London a few days ago and complained that half the eggs she bought there lately were rotten. The shopkeeper's excuse was, "I can't help it. This time of the year the hens are sick, and often lay bad eggs."

One of our subscribers being sick was asked by a neighbor if he had taken any remedy. "No," said he, "but I have taken lots of physic."

When is the wind like music? When it whistles. When is it like a baby? When it is squally. When like a fruit tree? When it blows. When like a newspaper? When it puffs.

Emily (little sister): "What a large family the *Spinsters* must be. I hear in church every Sunday that some of them are going to be married."

Mary (older sister)—Oh you little stupid! Don't you know what spinsters are? Bachelor ladies, of course."

One of our correspondents thus moralizes on seeing a young dog in a butcher's shop:—
Oh the pup, the beautiful pup!
Drinking his milk from a china cup,
Gamboling round so frisky and free,
First gnawing a bone, then biting a flea—
Jumping,
Running
Aft'r the bone,
Oh beautiful pup, you will soon be Bologna.

ANSWERS TO PUZZLES IN SEPT. NO.

MISCELLANEOUS ENIGMA.—Do all the good you can and never think of it.
DOUBLE ACROSTIC.—Ottawa city and Ottawa river.

REBUS.—Earn your meat before you eat it.

PUZZLES FOR OCT. NO.

DECAPITATIONS.
Behold a wild animal and leave a verb.
" a kind of fruit and leave part of the human body.

" a river in Ontario and leave a tear.

" what every farmer ought to own and leave part of the human frame.

" a spirit and leave an army.

" an animal and leave an article used in printing.

" "the support of life," and leave the way many more should treat the FARMER'S ADVOCATE.

ALPHABETICAL PUZZLE.

Take a certain consonant, add a vowel, and it will become a personal pronoun, add another consonant to change the gender, then by adding another vowel you will have a great man, and lastly, by adding three more letters, the word is guessed.

SQUARE WORD.

A flower; two of the bovine genus; to dispatch; two extreme points.

NEW DOUBLE ACROSTIC.

- To go beyond.
- The joint between the foot and leg.
- A Jewish doctor.
- A small animal.
- A soft, porous substance.

The initials form the name of a town, the finals the river on which it is built.

PUZZLE.



Take seventeen pieces of wood (matches with the ends cut off will do) and place them on the table as shown above. The puzzle is to remove five pieces and leave three complete squares.

A Good Trick.—Borrow a shilling from some one in the company, and say to him, "I will wager you sixpence that you cannot say 'That shilling' to three questions I will ask. When he accepts the bet you say, 'What is this coin?' He replies, 'That shilling.'" "Oh, then," you say, "you have seen the trick before." If he says "no," then he loses his wager. If he says "That shilling," you smile and pass on to the third question, "What will you give me to show you the trick?" If he says "That shilling," you thank him and put it in your pocket; if he says anything else he loses the wager.

Thanks to May Armitage for Decapitations, Alphabetical Puzzle and Square Word, for this number, also for correct answers to last month's puzzles. John Gibson, jr., Markham, sends correct answers, also, a Double Acrostic. S. Wherry, jr., of Newry, sends an Acrostic, which will be inserted when he sends us the answer. Always send the answer along with the puzzles.

Editorial Notices.

(Continued from p. 152.)

SALES OF DURHAM BULLS.—We would call the attention of our readers who are desirous of procuring Durhams to the sales of the Hon. D. Christie, and of Thompson's and Long's. There will be several young bulls at each, and purchasers would do well not to depend so much on purchasing in the spring, as often we do not know where to direct applicants to at that season. We believe it will pay intending purchasers to attend these sales.—See advertisement in this paper.

We have now on our editorial table a bunch of the *Lilium Auratum* having two large and very beautiful flowers. They are not only the most beautiful flowers we have had in our office this year, but they fill the office with a most pleasing fragrance. This plant deserves a place in every garden. These flowers were presented to us by Messrs. Pontey & Taylor, of St. James' Park Nurseries, near this city.

THE AMERICAN BUILDER. Chicago, Ill. \$3 per annum. A thoroughly practical magazine, and one that should be in the hands of all those who are in any way connected with building, or who intend building themselves. The designs are prepared by skillful architects, and are drawn to scale, so that they may be used to build by.—The articles are well written, and are of practical subjects.

FRUIT RECORDER.—We have been in receipt of Mr. Purdy's paper for many years. We consider it the best monthly publication treating on fruits that we have seen. Our readers that are engaged in the fruit raising to any extent will find one dollar well expended by subscribing for the *Recorder*. For particulars, see advertisement.

We are in receipt of Messrs. Elwanzer and Barrie's Fall Catalogue of Trees, Plants and Bulbs. It is well worth perusal by all who are intending to plant. No doubt Messrs. E. & B. would forward the Catalogue to any of our subscribers applying to Rochester for them.

London Market—Sept. 27.

White Fall Wheat, per bush.	\$1 15 to 1 27
Red Winter Wheat	1 15 to 1 24
Barley	0 55 to 0 60
Pens.	0 55 to 0 62
Oats	0 30 to 0 35

The FARMER'S ADVOCATE, edited in London, Ont., D. C. Terms, 1 per annum, if in advance; \$1.25, if in arrears; postage prepaid. Advertisements 10c. per line, agate space. Communications and advertisements should be in the office by the 15th of the month to ensure insertion in the following number.

VALUABLE FARM for SALE.

LOT NO. 1, N. HALF 14TH CON., TOWNSHIP L of LONDON, consisting of 107 acres...

Apply to REUBEN BISBEE, Devises P.O., or to this office.

TREES FOR FALL PLANTING

TORONTO NURSERIES.

GEO. LESLIE & SONS HAVE IN STOCK A LARGE and SPLENDID assortment of FRUIT AND ORNAMENTAL TREES

SUITABLE TO ALL PARTS OF OUR CLIMATE. Send 3 cent stamp for our priced Descriptive Catalogue.

IMPORTANT SALE OF Short Horns & Grade Stock.

MR. WM. LANG & MR. HUGH THOMPSON are about to dispose of a quantity of their stock, consisting of

- 17 HEAD OF DURHAM CATTLE, 8 of which are Bulls and Bull Calves. 1 CHOICE IMPORTED BULL CALF, from the Duke of Buelough's Stock. 24 SUPERIOR GRADE COWS AND HEIFERS, many of which now have four crosses and are ready to be entered in the Herd Book.

Also, 30 Superior LEICESTER EWES, LAMBS, and RAM LAMBS, 1 TWO-SHEAR RAM; 15 choice, improved BERKSHIRE PIGS—SOWS and BOARS.

Catalogues giving full pedigrees will be furnished on application to either of the above-named gentlemen, or to Jno. McCulloch, Esq., Auctioneer, Stratford.

The Sale will take place on LOT 24, 12TH CONCESSION OF DOWNIE, On Friday, Oct. 11th,

Commencing at 12 o'clock noon. Distant 2 1/2 miles from St. Mary's Station on G.T.R.

GREAT SALE OF Thorough-bred Stock

HAVING RESOLVED TO GIVE UP A PORTION of his farming operations, MR. JOHN BELLWOOD has instructed H. T. PHILLIPS, Auctioneer, to sell by Public Auction, at WILLOW GROVE FARM, TOWNSHIP OF CLARKE, COUNTY OF DURHAM, Province of Ontario, Canada, situate one and a half miles from the Village of Newcastle, on

Wednesday, Oct. 9, 1872 without reserve, the following valuable thorough-bred stock:

- 19 SHORT-HORN COWS, HEIFERS and HEIFER CALVES; 8 BULLS, young, different ages; 2 BULL CALVES, and 1 HEIFER CALF, high bred grade; also, SHEEP—LEICESTER—6 RAMS and 29 EWES; COLTS—WOLFE do.—10 RAMS; 12 Improved BERKSHIRE PIGS.

TERMS OF SALE.—All sums of \$50 and under, Cash; over that amount, twelve months' credit will be given on approved notes. Eight per cent. discount will be allowed for cash on all sums above \$50.

Sale to commence at 12 o'clock. N. B.—Teams will be in waiting at the Grand Trunk Station, Newcastle, on the evening previous, and on the morning of the day of sale, to convey parties to and from the Sale free.

GEORGE VAIR, LANDSCAPE GARDENER. Plans given, selecting, arranging and planting fruit and ornamental trees. Address—TORONTO and BARRIE

TO FARMERS.

Dick's Potato Digger.

(Patented Dec. 27th, 1870, and May 9th, 1871.) VIND SHOVEL PLOW, WITH BADGLEY'S CULTIVATOR ATTACHMENT COMBINED

Took FIRST PRIZE at the Provincial Exhibition, Hamilton, 1872. The SIMPLEST and BEST Digger in use. Does its work CLEAN and WILL NOT CLOG. Is LIGHT, DURABLE and CHEAP.

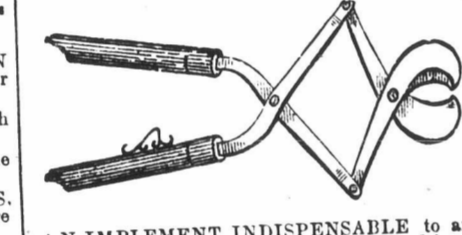
Is readily changeable from a Potato Digger to a Shovel Plow or Cultivator, and as a Combined Implement it HAS NO SUPERIOR.

PRICES: Diggers, unground and unpolished, \$11.50; with Shovel Plow and Cultivator, \$15.00; Diggers, points ground and polished, extra \$1.50; Steel faced Digger, ground and polished, extra \$3.00. A liberal Discount from above prices will be made to the trade. Manufactured only by

PATTISON & BADGLEY, St. Catharines, O.

Samples can be seen at the Agricultural Emporium, London; W. WELD, Agent.

HUGHES' GARDEN AND ORCHARD TRIMMER & PRUNER.



AN IMPLEMENT INDISPENSABLE to any go-a-head farmer who expects to get a fair return for his labor.

PRICE, - - ONLY \$3.

With this Pruner any person can do at least five times the amount of work with much less fatigue, than with any other implement ever offered to the public. For sale by agents only, who will be duly appointed by the general agent.

AGENTS WANTED IN EVERY TOWNSHIP IN THE DOMINION.

For further information address JOS. P. CONNELL, Box 13 AYLMER, ONT.

The following gentlemen have been appointed to sell this Pruner in the Townships set opposite their names:—

- D. McIntyre, Esq., South Dorchester. A. Jelly, Esq., North Dorchester. W. Harris, Esq., Dereham and North Oxford. H. Kipp, Esq., Norwich. J. E. Murray, Esq., Burford. G. Coon, Esq., Blenheim. R. Sleeth, Esq., Westminster. G. Metreger, Esq., Ekfrid. P. H. Green, Esq., Southwold. J. McCullum, Esq., Donewich. H. M. Moore, Esq., Yarmouth. A. Thompson, Esq., President of Agricultural Society, Mosa. W. H. Elliott, Esq., Caradoc. W. P. Woodhouse, Esq., Delaware and London. M. Stephens, Esq., Stephen. T. Tiercy, Esq., Stanley. T. Griger, Esq., Hay. G. Bice, Esq., McGillivray. C. Simons, Esq., Goderich. Thos. Smith, Esq., Turbary and Grey. J. R. Williams, Esq., McKillop and Tuckeramith. Julius Weiss, Esq., Colborne. A. Cook, Esq., Lokan. Robt. Downs, Esq., Wawanosh. W. Harris, Esq., Morris and Hullett. A. Ferguson, Esq., Treasurer, Hubbert. W. Middleton, Esq., Usborne and Blauhard. R. Francis, Esq., Deputy Reeve, Fullarton.

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TWO FIRST-CLASS YOUNG BULLS at reasonable prices and best pedigrees. Also some Cows and Heifers.

Apply to JOHN B. TAYLOR, Springwood, LONDON, ONT.

BEST OFFER YET!—\$8 FOR \$3!



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Has for over Twenty Years been the Standard in its class—and now has more Editors, more Departments, and more and better illustrations than any other Journal of its class. It is the acknowledged FAVORITE FOR THE FARM AND FIELDSIDE.

And is, as an Exchange says, "the most fully filled, English Periodical, which is published in the United Kingdom." It is not only the STANDARD in Rural and Domestic Affairs, but a superior Library and Family Paper. Sixteen Quarto Pages, ready at hand from Practical and Literary Matter, Illustrations, &c., contains late News, Financial and Market Reports, &c.

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MOORE'S HERALD, \$2.50 a year, but we will send it for the ensuing Fifteen Months, (Oct. 1, 72, to Jan. 1, 73—15 numbers), and a copy of our Splendid Steel Engraving, "Birth-day Anniversary of the Great Exhibition," (size 2 1/2 x 3 1/2) picture for only \$1.00—or we will send it to you Engraving to every one remitting \$3.00 for ten Total Subscribers for next Quarter, Oct. 1, to Jan. 1, 1873. Numbers 1 to 3 Engraving is first-class—a gem fit to adorn any Home in Town or Country. Address D. D. T. MOORE, New York City.

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ELLWANGER & BARRY offer to Planters and Dealers the largest and most complete stock in the country of Standard and Dwarf Fruit Trees, Grape Vines, Small Fruits, Ornamental Trees, Shrubs, Evergreens, New & Rare Fruit & Ornamental Trees, New & Rare Green & Hot House Plants, Bulbous Flowering Roots.

Small parcels forwarded by mail when desired. Prompt attention to all inquiries. Descriptive and Illustrated Priced Catalogues sent pre-paid on receipt of stamps, as follows: No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholesale (Just Published) Free. No. 5—Bulbs, Free. Established 1840. Address, ELLWANGER & BARRY, Mount Hope Nurseries, ROCHESTER, N.Y.

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CAUTION! As we have purchased the sole right of manufacturing Scribner's Patent Qualifying Tubes for the Dominion of Canada, we hereby caution all parties from purchasing them elsewhere, as they will be liable to prosecution. We have copyrighted the name of the "ORGANETTE."

For our instruments containing this wonderful improvement. Any manufacturer infringing on this copyright will be prosecuted. Illustrated Catalogues furnished by addressing W. BELL & CO., Guelph.

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ONE who will take charge of a market garden of about fourteen acres; one who will work it on shares is preferred. References as to character and ability will be required. For further particulars apply to W. WELD, Esq., of Farmer's Advocate, London, Ont., or to the undersigned.

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THE Western Fair!

Will be held in the CITY OF LONDON On the 8th, 9th, 10th, 11th Oct., '72

When the sum of \$10,000 Will be Awarded as Prizes!

All Entries to be made by the 28th of September. W. McBRIDE, Secretary. London, Sept. 1872.

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FILES and RASPS constantly on hand or made to order. N.B.—Old Files recut. Save money and save your old files.

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A MONTHLY of 16 pages at \$1.00 per year, edited by A. M. Purdy, showing fruit grower and flower fancier, having new and rare cultivation at Palmyra, N.Y., and South Wood, Ind., two hundred acres of fruit alone. Big pictures, botanical plates, novels, depictions, &c., and no room in it for it is strictly devoted to Fruit Growing and Horticulture. Its high moral tone and practical advice, original and copied matter, are of great value to all. To see a copy, send 10 cents (exchange) to Agents, or those desiring to see it, send 10 cents. Specimen copies free, on an extension of credit for four months (Sept. to Dec.) for only 25 cents. Don't judge it to be of no account because printed in an inland town and the editor a working, practical grower, but try it four months, and see what it does for you. Address, A. M. PURDY, PALMYRA, N.Y.

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THE largest stock in the United States. Plants pure and unimpaired. Wholesale and Retail. Let us tell you how to plant, grow and market all kinds of Small Fruit—peaches, plums, cherries, &c. Private terms. Small Fruit—peaches, plums, cherries, &c. Private terms. Small Fruit—peaches, plums, cherries, &c. Private terms. Small Fruit—peaches, plums, cherries, &c. Private terms.

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THE OSBORN LOCK STITCH Sewing Machine

Has now been tested beyond all question, and the verdict of the public is that to-day it stands without a rival. It is the most substantially built, has the fewest working parts, and is beautiful in design and finish. Has the best design of a shuttle, and is by far the largest bobbins. It is capable of performing a range of work hitherto thought impossible for Sewing Machines, is sold at about one-half the price of other Machines doing the like work, and is equally at home on leather as on the goods. A perfect machine guaranteed or no sale. It is the best made, simplest, more durable and reliable than any other single thread Machine. Larger and works with greater ease. Will do all kinds of domestic Sewing in a perfectly satisfactory manner. Has taken first prize wherever exhibited. Agents wanted everywhere. Splendid Inducements.

GUELPH SEWING MACHINE CO., Guelph, Canada. John Morrish, Chatham, General Agent for the County of Kent. Wm. Laidie, Mount Brydges, Agent for West Middlesex.

GOOD FARM FOR SALE—Seven miles from city. 150 acres; 4 acres wood; new two-story brick house; 3 barns and driving shed; two good wells; spring creek runs through the farm; soil clay and loam; splendid wheat land; cannot be beat in Canada; good orchard; gravel road running past the house.—Apply at this office.

August 27, 1872.

CHEESE FACTORY TO REST ON SHARES.

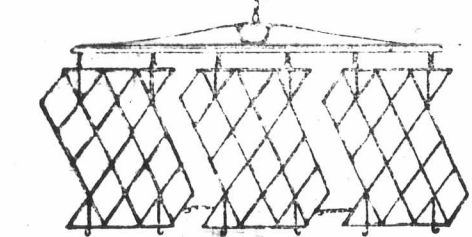
AN EXCELLENT CHEESE FACTORY AND FARM to rent.
 Thirty-five cows are kept on the farm. The milk from 225 cows is manufactured in the factory.
 The tenant must pay half the value of the stock and implements now on the farm.
 This is a rare opportunity to make money with but little investment.
 The farm consists of 220 acres, with good buildings, orchards, &c.
 None need apply unless a man with a family, and one who can come well recommended.
 Applications, stating particulars and circumstances of applicant, to be made to this office.
 London, Aug. 1872.

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 MANUFACTURE all kinds of Agricultural Implements—
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 All orders from a distance carefully attended to, and satisfaction guaranteed.
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THIS Harrow is superior to all others, because it is the most complete. It covers 14 feet of land. It leaves the ground finer, works firmer, and adapts itself to uneven land. It does not bend, and chokes less than any other Harrow. It is so constructed as to draw either end. The teeth being so set as to tear the ground up to a good depth, or to pass lightly over the surface, as the teeth are beveled on one side. It can be worked with a span or three horses, or it may be unjointed and worked with one or two horses, in one, two or three sections.
 They are giving entire satisfaction.
 Price of Harrow complete, with three sections, treble-tree, and two coupling-trees, \$35.
 Price of two sections and one coupling tree, \$22.
 Address—**THOMAS HOWARD,**
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 Samples may be seen and orderstaken at the Agricultural Emporium. 71.4e

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TREES, BULBS, HEDGE PLANTS, SEEDS, Fruit and Flower Plates. Catalogues, 20s. P. K. PHENIX, Bloomington Nursery, Ill. 8-4

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\$50 and \$53 Each, WORK BY HAND
 Sets up its own work, knits a pair of Stockings in 30 Minutes. Also, Fancy Vests, Clouds, Gloves, Mittens, Cuffs, Collarettes, Capes, Shawls, Hoods, Babies' Boots, Counterpanes, Anti-Macassars, Window Curtains, Double and Single Webbs, Ribbon or Plain, &c. These Machines knit the Polka Stitch and Cardigan Jackets, Widen and Narrow, the same as hand work. Also, the

SINGER & HOWE SEWING MACHINES,
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The latest out, needed by every lady in the land, **THE CRESCENT GRADUATED Button Hole Cutter.**
 Send 25 cents for sample, and get your county right.

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GO TO DYSON'S for CHEESE VATS and the best Stoves, Cheap as any, Dundas St., London.

R. DENNIS, King Street, London, Ont. Manufacturer of Walmesley's Patent Potato Digger. Horse Shoeing & General Blacksmith's Work promptly attended to. 8

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URSALL'S Penitentiary Shoe Store is without doubt the cheapest place in London to buy Boots and Shoes. Dundas Street and Arcade. 12-y

JOHN FERGUSON, King Street, London, Manufacturer of all kinds of FURNITURE. Upholsterer and Undertaker. 12y

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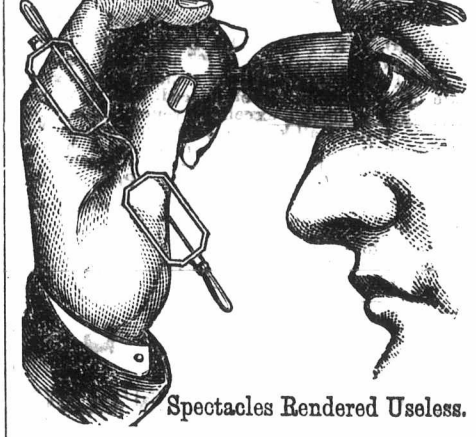
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Horticultural Products, Ladies' Work, the Fine Arts, &c., on or before Saturday, Sept. 14th.
Prize Lists and Blank Forms for making the entries upon, can be obtained of the Secretaries of the Agricultural Societies and Mechanics' Institutes throughout the Province.
HUGH C. THOMSON,
Secy Agricultural and Arts Association
Toronto, July 26, 1872.

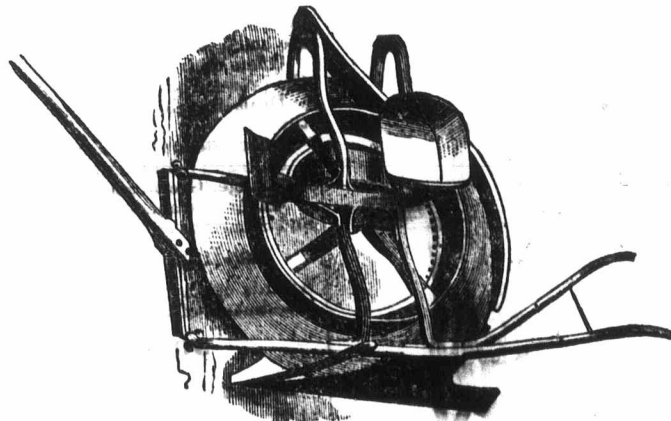
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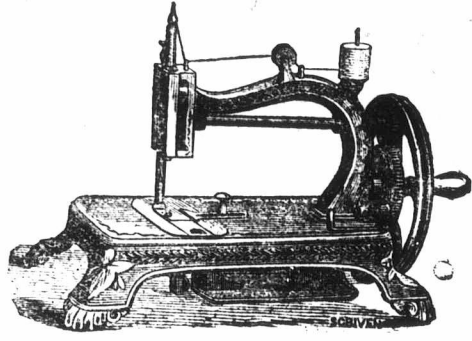
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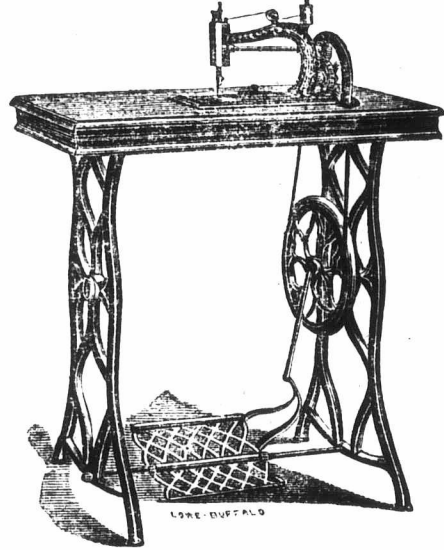
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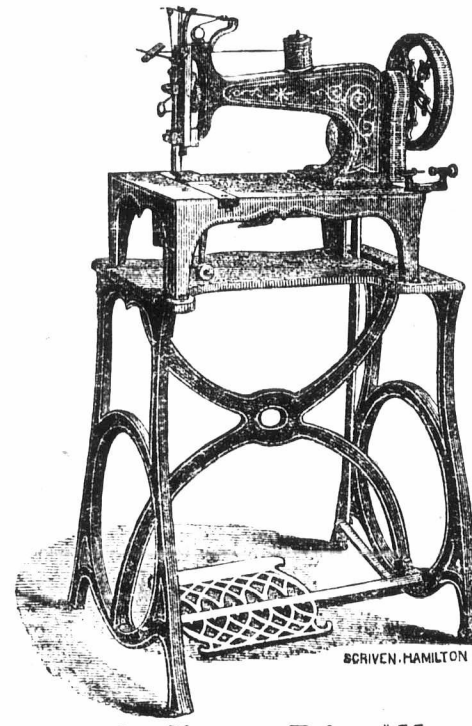
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- THOS. GUY, Sydenham Farm, Oshawa, Breeder of Ayrshire and Devon Cattle. 12-3-4

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