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LOWER CANADA AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER;

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES.

PUBLISHED UNDER THE DIRECTION OF

M. J. PERRAULT,

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

OCTOBER, 1866.

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SPARGERE COLLECTA.

OFFICE AT JOHN LOVELL'S PRINTING ESTABLISHMENT, ST. NICHOLAS STREET,
MONTREAL.

Official Dep't.

PROVINCIAL TRIAL OF PLOUGHS AND PLOUGHING MATCH.

THE trial of ploughs and other implements for the preparation of the Soil, and also the "Grand Provincial Ploughing Match," will take place at Logan's Farm, Montreal, on Tuesday, second October, to commence at nine, a.m.

1st. Class. Open to all Ploughmen from all parts of the Province. Six Prizes. 1st, \$60; 2nd, \$40; 3rd, \$30; 4th, \$20; 5th, \$15; 6th, \$10.

2nd. Class. Open to all Ploughmen from all parts of the Province under 21 years old. Six Prizes. 1st, \$40; 2nd, \$30; 3rd, \$20; 4th, \$15; 5th, \$10; 6th, \$5.

Entries to be made on or before the 29th September. Further particulars can be obtained from the Secretary.

G. LECLERE,
No. 615 Craig Street, Montreal.

ARTHABASKA AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the Society will be held at Arthabaskaville, Thursday, the fourth day of October next, at ten o'clock.

By order,
B. THEROUX, Sec.

MEGANTIC No. 2 AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the Society will be held at the Agricultural Hall, Leeds, on Wednesday, the 10th day of October next.

By order,
JOHN HUTCHISON,
Sec. Treas.

CHAMPLAIN AGRICULTURAL EXHIBITION.

THE Agricultural and Industrial Exhibition of the County will take place Tuesday, the ninth of October next, at ten o'clock, at the Public Square of the Village of St. Geneviève of Batiscan.

By order, ROBERT TRUDEL, Sec.
St. Geneviève de Batiscan, August 25, 1866.

OTTAWA No. 1 AGRICULTURAL EXHIBITION.

THE Annual Exhibition will be held in the village of Aylmer, on Wednesday, the third of October next.

By order,
J. W. SYMMES, Sec.

QUEBEC COUNTY EXHIBITION.

THE Annual Exhibition of the county will take place at St. Ambroise, the eighteenth of October next, and the Ploughing Match, the eleventh of the same month, at Charlesburg.

By order,
J. B. DELAGE, Sec.

AGRICULTURAL SOCIETY, NO. 1, COUNTY OF BONAVENTURE EXHIBITION.

THE Show at New Richmond will be held at Mr. John Doddridge's, on Thursday, 4th of October next, New Carlisle; at Mr. Henry Caldwell's, on Tuesday, the 9th of October; and at Port Daniel, on Friday, the 12th of October, at Mr. William McPherson's.

By order,
GEORGE KELLY,
Sec. Treas., B. A. S. T., No. 1. C. B.
New Carlisle, 27th August, 1866.

LOTBINIERE No. 1 AGRICULTURAL EXHIBITION.

THE Annual Exhibition will be held on the farm of Mr. Wm. Wilson, on the 17th day of October next, and the Ploughing Match, on the 16th day, on the farm of Mr. Robert Lipsay.

By order,
JOHN PARKER, Sec.

PONTIAC AGRICULTURAL EXHIBITION.

NOTICE is hereby given that the County of Pontiac Agricultural Exhibition, will be held at Clarendon Centre, on Wednesday, the 3rd day of October next, at 10 o'clock, a.m.

By order, G. W. JUDSON, Sec.
Clarendon, August 1st, 1866.

L'ASSOMPTION AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the Society will take place, Wednesday, the 3rd October next, at St. Charles de Lachenaie, near the parish church.

By order, ALEX. ARCHAMBAULT,
Sec.
L'Assomption, August 18th, 1866.

ST. MAURICE AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the County will take place at the Village of Yamachiche, Wednesday, the 10th October next, at ten o'clock.

By order, A. E. MILOT, Sec.
Yamachiche, August 21, 1866.

AGRICULTURAL SOCIETY, No. 2, COUNTY OF GASPE.

A SHOW of Horses, Cattle, Sheep, Vegetables, and the Produce of the Dairy, will be held at Gaspé Basin, on the second Tuesday of October next.

JOSEPH EDEN, *Secretary Treasurer.*
Gaspé Basin, August 22, 1866.

COUNTY OF BAGOT AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the Society will take place at the Village of the Parish of St. Liboire, Wednesday, the third of October next, at ten o'clock.

By order, P. S. GENDRON, *Sec.*
Ste. Rosalie, 30th August, 1866.

BOARD OF AGRICULTURE FOR LOWER CANADA.

RULES FOR A PROVINCIAL PLOUGHING MATCH:

To be held on Logan's Farm, Montreal, on the 2nd of October next.

1st. The Match will take place on Tuesday, the 2nd day of October next.

2nd. The fields selected for the match, are on Logan's Farm, at Montreal.

3rd. The ground to be ploughed by each man, will consist of a crown ridge and two open furrows,

4th. Each ploughman will be required to drive his horse.

5th. No person will be allowed to assist the ploughman, except in setting his poles.

6th. The furrow slice to be 6 inches by 9 inches.

7th. Each ploughman shall draw his number, and the lot having a corresponding number shall be the one on which he shall plough.

8th. The ploughman shall stake off his lands after drawing his number, and shall be allowed an assistant to set and remove his stakes. Any ploughman receiving fur-

ther assistance, shall forfeit all claim to a prize.

9th. On proceeding to open his lands, each ploughman shall commence at the stake corresponding to his number.

10th. Ploughing shall be commenced after the time-keeper shall have given the signal. The time allowed for the performance of the work, shall be at the rate of an *arpent* in twelve hours.

11th. Each competitor, on completing his work, shall place his stake with his number on it, on the centre of his land. He shall then at once remove his team and plough, and report to the time-keeper.

12th. Should two or more competitors be considered equal in merit, the preference shall be given to the person finishing in the shortest time; and in order to aid the Judges in the performance of their duty, the time-keeper shall furnish to them a list of the numbers of the various lots, with a statement of the time occupied in ploughing each lot.

13th. All the land ploughed shall be judged.

14th. No person will be allowed to interfere with the ploughmen while at work.

15th. The decision of the Judges shall in all cases be final, if in accordance with the Rules.

16th. Young men under 21 years, shall only be admitted to compete in the "*Young Men's*" Class.

17th. Persons intending to compete at the ploughing match, shall make their entries on or before the 29th day of September.

The Judges are requested to attend promptly at the Secretary's Office, on the grounds, Logan's Farm, Montreal, at 9 A. M., on the 2nd October, day of the ploughing.

By order of the Board of Agriculture,
GEORGE LECLERE.

EDITORIAL DEPARTMENT.

PROVINCIAL TRIAL OF PLOUGHS AND PLOUGHING MATCH.

THIS trial open to all ploughmen from all parts of the province, will come off, on Tuesday, the second day of October, when a large competition is expected from every county in Canada. It has been thought advisable to divide the competing ploughmen in two classes according to age, thus affording to our

young farmers under twenty-one a good opportunity to display their ability in field work. Distinctions of race have been carefully avoided for the very good reason that the French Canadians are now considered fully equal and in many contests have proved superior to their Scotch, Irish and English rivals.

We are informed that several of each nationality will take the field in both

classes, Tuesday next, and we look with interest to this most desirable rivalry in the right direction. The trial of tilling implements will take place on the same day.

THE NEW YORK STATE AGRICULTURAL COLLEGE AND CORNELL UNIVERSITY.



DS. PRAIRIE FARMER :—The munificent endowment of this institution by the Hon. Ezra Cornell has turned towards it the attention of all persons in this country, as well as many of those of other countries, who are interested in the success of industrial schools. Having lately had the opportunity of visiting the locality which has been selected for its site, of examining the plans for the building and seeing the work already commenced, it occurred to me that a summary of my observations might be regarded with some interest by the people of States in which the establishment of agricultural colleges is contemplated. I will not occupy space in giving an account of what has previously been done in the State of New York in reference to an agricultural college, my main object being to furnish some idea of the Institution to which the name of Cornell University has been appropriately given.

Mr. Cornell proposed to the legislature of New York, to donate five hundred thousand dollars for founding an institution, designed, primarily, to give instruction in agriculture and the mechanics arts, but ultimately to embrace the teaching of whatever the term *university* implies—provided the State would make over for the same purpose, its congressional land-grant claim, 999,000 acres. This proposition was agreed to on condition that Mr. Cornell should give twenty-five thousand dollars for the establishment of a professorship of agricultural chemistry in Genesee College at Lima, N. Y., which condition was complied with. Besides thus giving \$525,000 to secure the bounty offered by congress, Mr. C. has given a farm of 300 acres—comprising the site of the buildings of the institution, and to be used for experimental and general agricultural purposes—worth at least \$50,000. He has also purchased and presented to the institution the Jewett cabinet of Palæontology for which he paid \$10,000.

The location of this institution is near Ithaca, at the head or southern extremity

of Cayuga lake. The building site is three hundred feet above the lake and nearly as much above the main portion of the town. The ground lies mostly between two streams, the Cascadilla creek near the south, and Fall Creek on the north line, both emptying into the lake—besides furnishing abundant water power the beds of these streams are so high a short distance back, that water can be taken from them for the supply of all the wants of the institution and also for irrigating portions of the farm. Fall Creek, which is the largest stream, descends 400 feet in the space of one mile from its mouth—its channel being cut principally through rock forming a deep gorge, overshadowed by a dense growth of evergreen and deciduous trees. The land to the northern bank of the ravine has been secured to the institution, so that the trees may be preserved. Glimpses of the different falls—one being a hundred and thirty feet—can be had from the public road, and by lines of paths and proper openings, it is intended to render the various features of the spot attractive in the highest degree.

The Cascadilla will furnish the power for the mechanical department of the institution, for which there are excellent sites. The principal buildings of the University will stand on a handsome plateau, from which a landscape view of wide range and great beauty is attained. It embraces a hundred and fifty square miles of land, mostly divided into well cultivated farms, with a lake view of upwards of thirty miles in length. The scenery is most interesting towards the south—the land rising higher and higher as it forms the slopes for the head waters of the Susquehanna and Alleghany rivers, some points reaching an altitude that almost entitles them to the name of mountains. The western shore of the lake, which for several miles is seen to good advantage from the point before mentioned, presents a diversified surface agreeable to the eye, and furnishing fine tracts for the cultivation of fruits—particularly grapes and pears—many acres having lately been devoted to this object.

The University buildings will embrace eight dormitories, 165x50 feet, four stories of twelve feet each in height, above the basement; a chapel 108 feet square; a library building 100x60; a building for cabinet and museum, 125x75, and two laboratories 75x50 feet. These buildings

will surround an area of fifteen acres. At a little distance, on an eminence considerably above the site of the other buildings, will be placed the observatory, for which an object-glass seven inches larger than any yet made, has been engaged.

Besides these buildings, there will be some half dozen houses for the accommodation of the officers of the institution. All the buildings are to be of stone to be constructed in the most substantial manner and the principal ones are to be slate roofs. Stone of excellent quality is quarried on the University grounds only a short distance from the buildings.

One building which is calculated to afford accommodations for one hundred students has been commenced and it is expected to be ready for occupancy by the first of November, 1867. Work on the other buildings will proceed with the utmost practicable dispatch. Barns and other fixtures for live stock will be provided on the easterly portion of the farm.

It should have been previously stated that a Board of Trustees has been appointed for the institution and that the plan of instruction will be made public in due time.

Mr. Cornell is now purchasing the scrip and locating and settling the lands for the institution. He has already purchased fifty thousand dollars' worth at 50 cents per acre—has located 100,000 acres in Wisconsin, Minnesota and Kansas. His agents have already sold some of this land at a handsome profit and Mr. C. hopes to realize a profit of at least two dollars an acre, all of which will be turned over to the institution. Mr. C. intends to buy more scrip as soon as it is offered—his object being to turn the land to the best account for the University and with his good judgment and constant oversight, the sum ultimately realized on the grant will not probably fall short of two millions of dollars.

It may be said that Mr. C. is devoting his best energies to the success of this institution. It is to be the great work of his life; and such a work, considered in reference to the good it is capable of conferring on mankind is seldom achieved by individual efforts. If it is completed according to the present plan, it will stand far above any similar institution in the world—a noble monument to its founder, in which not only the citizens of New

York, but the people of America, may feel an honest pride!

I think I may be permitted, in closing this communication, to say a word in regard to another important work by which Mr. Cornell's name will be perpetuated—the Cornell library.

The building was erected in 1864 and 1865; it stands near the center of the town of Ithaca; is 104 x 64 feet, three stories high above the basement. The material is rich and the building is considered fire-proof. It was built under Mr. C.'s immediate superintendence, at a cost of \$75,000. The plan embraces various rooms besides the library—as the post-office, bank, lecture-room, farmer's club room, hall of the Historical Society, reading rooms, &c. The income from the rent of these rooms will amount to \$3,000 a year. Mr. C. proposes to fund for the benefit of the library, \$10,000, the income from which with the rents, will purchase 1,000 volumes annually. Mr. C. has donated ten thousand dollars' worth of books, which with others are just being placed in the alcoves. There will be space for 50,000 volumes. I will not attempt a particular description of the building; it is sufficient to say that it is finished throughout in a most thorough and tasteful manner. The library is free.

SANFORD HOWARD.

LANEING, MICA., Aug. 18, 1866.

P. S.—Of Mr. Cornell's farming, his fine Short-horn and Galloway cattle—his beautiful South Down sheep (150 head) of the Webb stock—his extensive plantation of grape vines and pear trees, &c., I have not room to speak in this article. S. H.

THE OXFORD CHEESE FACTORIES.



EREWITH we give a list and names of proprietors of the principal Cheese Factories of the County of Oxford, with the probable amount of cheese manufactured during the season of 1866.

James Harris & Co., township of West Oxford, with a branch in the township of Dereham, is using the milk of about 500 cows; and will make about 70 tons of cheese, all of which has been sold and contracted for at 12½ cents per pound.

Andrus Smith & Son, Norwich, use the milk of near 400 cows. The average estimate of cheese produced from each cow is somewhat over 300 lbs., which can be in-

creased considerably by good feeding. Smith & Son have not yet sold.

Harvey Farrington, Norwich, uses the milk of between 300 and 400 cows, and has sold all his cheese at about 12½ cts. His average yield per cow is quite as good as any other.

Bailey, Norwich, has a nice new factory, which this season uses the milk of about 200; has sold at 12½ cents.

Samuel Elliot, West Zorra, uses the milk of 400 cows—a first rate factory—has sold all his dairy produce at 12½ cents.

John Ailum, West Zorra, uses the milk of from 350 to 400 cows, has sold a quantity of his early make at 11 cents, and the balance of dairy at 12½ cents.

Jonathan Jarvis uses the milk of 250 cows; has a very good factory in North Oxford; and has sold his whole lot at 12½ cts.

Josiah Collins, Dereham, uses the milk of about 150 to 200 cows, and has sold his whole lot at 12½ cts.

The above are the principal factories of the County, and have all sold to one party—Mr. E. Caswell of Ingersoll. Besides these there are quite a number of dairies which are manufacturing on the factory principle, and in the aggregate will make a large quantity.

"A THING OF BEAUTY IS A JOY FOREVER."



HERE are beauties of nature, and beauties of art, and every well managed farm should be a combination of both. But I am sorry to be obliged to say that few farmers seem to appreciate, or care for either. It should be the ambition of every farmer to make his farm appear as beautiful as possible, and beauty may be cultivated in a cheap, as well as a costly manner, so that no one can excuse himself by pleading poverty. Nature is constantly occupied in creating beautiful things, and does her best to cover up deformities and unsightly objects of every kind. If there is an ugly edge, rough place, pile of stone, steep bank, or unsightly hole about the farm, nature will cover it with a beautiful growth of bushes, brambles and briars, making it both *ornamental* and *useful*; and if the untidy farmer erects a crooked, unsightly fence, nature will soon hide its deformity by covering it with a beautiful, living, waving hedge. But too many farmers have so little appreciation of what is both beautiful and useful, that they wage a

continual warfare against nature. They go out armed with axe and bush-hooks, and cut and slash, and waste their time and strength in destroying "a thing of beauty," with no possible object in view, but doing mischief and injury to themselves and the world.

American farmers seem determined to do all they possibly can, to make a barren desert of our beautiful land. They remove everything that will tend to check the raging wind, and this bad management has already done much towards drying up our springs and water-courses. Trees and bushes, briars and brambles should be allowed to grow upon every spot and in every place *where the land can be spared*, and they should not be looked upon as enemies; but every farmer should understand that they are his best friends, and that he will not be the loser if he allows them to occupy a little strip of good soil around the border of his fields.

Our good old fathers, who hewed their log-houses and farms out of the dense forests, were naturally led to consider trees and bushes as enemies to their progress, and we have inherited far too much of the same feeling.

I might speak of many other things about the farm, wherein beauty might be cultivated without expense, such as plowing straight furrows, planting straight rows, and doing everything in a neat and tasty manner, which is no more expensive than a slovenish, wasteful method. To keep everything neat and in order about the buildings, is cheaper than to let them go out of order. It is a pleasure to see a beautiful farm, and every farmer can make his farm beautiful if he will, and in doing so he will increase its value in dollars and cents, as well as in the pleasure and happiness it will give himself, his family and all who see it.

GEO. J. COLBY.

Waterbury, Vt.

TIDINESS ON THE FARM.

NO class of men is the useful maxim, "a place for everything, and everything in its place," so frequently disregarded as by farmers. You enter a merchant's store, and are struck at once by the evidences of order and method, everything being, of necessity, so arranged that he can lay his hand upon the precise article needed, without the delay of an embarrassing and vexatious search. In the office of the profes-

sional man, and in all departments of business, the imperative necessity for order usually secures it. But with the farmer the case is often notoriously different. His farm-yard, his barn, and every part of his premises, are often conspicuous by the entire absence of neat arrangement and general tidiness. The waggon and implements, sometimes even those of an expensive kind whose cost might be supposed to induce a little extra care, are exposed to all varieties of weather, loaded with dirt, and out of repair. The buggy appropriated, perhaps as a convenient roosting place by the poultry, is covered with an unseemly coating of mud and other defilements, which completely hide the original paint and varnish. The smaller articles are scattered all over the premises. The grain-bags, in holes and without strings, have to be hunted up every time they are needed; and each muster presents an unaccountable diminution of numbers.

Now, all this is not only offensive to the eye and to good taste, but is thriftless and wasteful. A want of order and method is to farming, as to every other trade, a cause of serious loss. The farmer will tell you, in excuse for the state of things we have indicated, that he has no *time* to be particular. But, if he judged rightly, he would find that, looking at the matter only in that light, he loses more time by his negligence than it would cost him to attend promptly to needed repairs, to arrange his tools and implements, and keep everything in its proper place. How often in every such farmer's experience is a whole morning or more lost by neglect, in the first instance, of a little timely repair. Or how often does the clumsily patched up implement give way, and occasion repeated delay, spent in tramping up some inefficient expedient. How often is time lost in a vexatious search for some tool, mislaid when last used. If there were only one man at work, he might possibly remember where, for his temporary convenience, or in his hurry, he threw down the article as soon as its immediate purpose was served: but, as on most all farms, several hands are employed, the probability is, that when next the thing is wanted, it will be by some other party, who will be totally at a loss where to find it. Depend upon it, the time spent in at once restoring an article, after using it, to its proper place, will, in the end, be time saved, that the delay incurred by a thorough and efficient repair at the outset, will obviate many sub-

sequent and more serious delays; and that the hours devoted to keeping implements clean, and in good working order, will tend materially to their durability and efficiency, and ultimately prove to be true economy.

The importance of cleanliness, where live stock is concerned, can hardly be exaggerated. The filth that too often accumulates in hog-pens and stables, is not only unseemly and disgusting to all concerned, but exerts a most injurious influence on the health of the animals. The plea of want of time to attend to the niceties of fancy farming in this particular, only betrays the so-called practical farmer's ignorance of his business; and the neglect of scrupulous cleanliness in regard to his stock will damage his pocket not less than his personal refinement. The farm-yard, sheds, and places appropriated to stock, should be kept in such a condition that the owner need not be ashamed to invite a lady to inspect his premises.

The thrifty, careful farmer, whether he be a man of refinement and education, or not, will see to it, on the score of his interest, if for no other reason, that his implements are preserved in good repair, and bestowed in their proper places; that the roofs are weather-tight; that his stacks are neatly finished and thatched; that there is no wasteful scattering of fodder and litter; that his stock are sheltered, and duly cared for in the essential matter of cleanliness; and his farm will present, in a thousand nameless but not unimportant particulars, the indications of a tidy proprietor. A stranger may frequently give a shrewd guess in regard to a farmer's success, from the aspect of his farm-yard; for a habit of negligence in one department is very apt to extend to others; and untidy premises will generally be evidence of a slovenly and unprofitable mode of farming.


THE HARNESS OFF.

THE mowers and reapers, the hay rakes and forks, big and little, have about finished their work for 1866. The "after harvest"—the period looked forward to by farmers, their families and hired help, as a time when the sweat of the brow, for a few days at least, may be wiped away, the body rest from its labors, and the mind reach out after something to amuse as well as instruct, is near at hand.

If there is no real halt in the long highway of work between budding spring and

hoary winter there is at least a lessening of speed, a relaxation of the belts of the machinery of labor, when the last rick is completed—the implements of the hay and harvest fields are securely laid away for the year. This is a time for tasting the sweets of social life, for visiting neighbors and friends, smoothing down the ridges and filling up the furrows of selfishness, over and into which isolated laboring mortals stumble; the time for bringing back the purple blood of youth to the veins, straightening and strengthening the stooping and yielding form and enabling out of the dictates of ones own heart, the obeying of the Divine injunction of love to fellow man. It is a time for rejoicing over the products of labor—of thankfulness to him who gives the rains and the sunshine. It is a time to reunite at the annual festivals, imparting and receiving enjoyment, instruction and profit. It is a time to erase signatures from promises to pay, take up mortgages, save credit at the shops and stores, collect debts, and enjoy the heaven only entered by those who “owe no man any thing.” It is the “chore time” of the season, when the little “odd jobs” of the farm and the farm house should be looked up and attended to. They are plentiful enough and not difficult to find. He who does not attend to them in season will have dripping rains and winter frosts to hinder and perplex him. Insignificant many of them may appear, but unattended to they are stumbling blocks in the pathway to domestic comfort and happiness. When the hard, stiff work-harness of the season is laid aside, remember the smaller duties of the harvest rest the “chores” of the year.

AN EXCELLENT IDEA


 HE Executive Committee of the Michigan State Agricultural Society, at its last winter meeting, offered the following premiums on farms:—

1. For the best improved and most profitable farm of not less than 160 acres in area, a premium of \$100.
 2. For the best improved and most profitable farm of not less than 80 acres, and not over 160 acres, a premium of \$75.
- These prizes are to be awarded at the Annual Meeting to be held in Adrian next month. The entries were required to be made with the Secretary at his office in Detroit on or before the 15th of July. The

examination of the farms is to have reference to the following points, which are laid down for the guidance of the judges:—

1. The condition of the surface with regard to its economical division into the fields, its improvement, the fences, and the system of the cultivation practiced.
2. The farm house and grounds, orchards, farm buildings, yards and arrangements for taking care of the stock and crops, incident to the particular system of culture practiced.
3. The amount of drainage, if such work was necessary, and the improvement caused by open or under-drains.
4. The quantity and quality of the live stock maintained.
5. The amount and condition of the crops for the last, past, and present years.
6. The returns obtained by the system pursued, with the aggregate amount of stock and crop kept and obtained per acre.

NEW WAY OF PAYING SUBSCRIPTIONS.

 HE following is an amusing account of the way a farmer was taught how cheaply he could take the paper. The lesson is worth pondering by a good many men “we wot of.”

“You have hens at home, of course. Well, I will send you my paper for one year, for the products of a single hen for one season; and the proceeds. It seems trifling, preposterous, to imagine the products of a single hen will pay a subscription; perhaps it won't, but I make the offer.”

“Done,” exclaimed farmer B., “I agree to it,” and appealed to me as a witness of the affair.

The farmer went off apparently much elated with his conquest; the editor went on his way rejoicing.

Time rolled around, the world revolved on its axis, and the sun moved in its orbit as it formerly did; the farmer received his paper regularly, and regaled himself with the information from it, and said he was surprised at the progress of himself and family in general information.

Some time in the month of September, I happened to be up again in the office, when who should enter but our friend farmer B.

“How do you do, Mr. B.?” said the editor, extending his hand, his countenance lit up with a bland smile; “take a chair and be seated, fine weather we have.”

“Yes sir, quite fine indeed,” he an-

swered, and then a short silence ensued, during which our friend B. hitched his chair backward and forward, twirled his thumbs abstractedly, and spit profusely. Starting up quickly, he said, addressing the editor, "Mr. D., I have brought you the proceeds of that hen.

It was amusing to see the peculiar expression of the editor, as he followed the farmer down to the waggon. I could hardly keep my risibles down.

When at the waggon the farmer commenced handing over to the editor the products amounting to eighteen pullets, worth 12½ cents each, and a number of dozens of eggs, making in the aggregate, at the least calculation, one dollar and fifty cents more than the price of the paper.

"No need?" said he, "of men not taking a family newspaper, and paying for it too. I don't miss this from my roost, yet I have paid for a year's subscription and over. All folly sir; there is no man but what can take a newspaper; it's charity you know commenced at home."

"But," resumed the editor, "I will pay for what is over the subscription, I did not intend this as a means of profit, but rather to convince you. I will pay—"

"Not a bit of it, sir; a bargain is a bargain, and I am already paid sir—doubly paid, sir. And whenever a neighbor makes the complaint I did, I will relate to him the hen story. Good day, gentlemen."

THE LARGEST FARM IN THE WORLD.

I observe a note in your issue of an 8,000 acre farm in Bureau Co., Ill., and of Mr. J. S. Alexander's farm in Morgan Co., Ill., both of which will pass for fair-sized Illinois farms. But the farm which is no doubt the largest cultivated farm in the world, and, I believe the best, is owned and cultivated by M. L. Sullivan Esq., formerly from the vicinity of Columbus, Ohio, now of Champaign Co., Ill. He owns and presides over 70,000 acres of the best land on this hemisphere, 23,000 acres of which is under fence, and in actual improvement and cultivation; the balance is used in herding.

I will venture the opinion that there cannot be found 5 acres of unserviceable land on Mr. S.'s entire 70,000 acres. Their productiveness is unsurpassed.


Almost all of Mr. S.'s farming is conducted by labor-saving machinery, so that it is estimated that, throughout, one man will perform the average labor of four or five as conducted on small farms. He drives his

posts by horse-power; breaks his ground with Comstock's "spades," mows, rakes, loads, unloads and stacks his hay by horse-power, cultivates his corn by improved machinery, ditches any low ground by machinery; sows and plants by machinery, so that all his laborers can ride and perform their tasks as easy as riding in a buggy.

I had the pleasure of being present when he harvested a thousand acres of his wheat, this was done with—'s "Header's" — about eight or ten men and twenty horses cut and safely stacked away about 200 acres a day, and performed the work better than I ever saw it by the old modes. To give all the improved modes of farming employed by this kind of agriculture would require more space than you would like to spare. Notwithstanding all this labor-saving machinery, Mr. S. employs from 100 to 200 laborers, some 200 horses and mules, and a large herd of working oxen.

Not having the exact data before me, I will not venture to give the enormous returns in bushels or tons, of the products of this great farm. Some estimate may be made from the magnitude of the farm, taken in connection with the fact that the quality of the soil is unequaled by the very best Scotch bottoms.—*Cor. Cin. Enquirer.*


A VISIT TO MR. SNELL'S OF EDMONTON.

 IR,—Having been recently on a visit at Mr. John Snell's of Edmonton; and having travelled through the greater part of Canada West, I had a great curiosity to see his stock. One evening I went to see him weigh some of his sheep, and was very much astonished at the size and weight of them. They are certainly the best sheep I have ever seen. Of eight Leicester and Cotswold rams that were weighed the heaviest was 401 lbs., the lightest 284 lbs., six of those were shearlings, one two shears and one three shears. The eight weighed 2,541 lbs., or an average of 317 lbs. One shearing ram weighed 320 lbs. I also saw a fine lot of young Durham Bulls, eight in number, they were from eight to ten months old, mostly by the imported bull, Baron Solway. They are not so large as some I saw imported from England to Ireland, but are finer in quality, and of a better style. Mr. Snell's stock is in excellent condition, and reflects great credit on his skill and judgment as a breeder. A visit to his farm will well repay any of your readers.

Yours, &c., JOSEPH H. HARE.


FARM OPERATIONS.

FACTS IN FARMING.

 HERE are some things in farming that are established, namely :


That manure must be applied, not only to get up land, but to keep it up. That wet soil must be drained, either by ditching or otherwise. That sub-soiling is good. That grain should be sowed earlier than it generally is ; that it should be harvested earlier than it is done ; that grass should be cut when in blossom ; and never when ripe, unless for seed. That our soil is not sufficiently worked, especially in hoed crops ; that stirring the soil and keeping it well pulverized, is a partial guard against drouth. That the most advantageous grain for horses is the oat ; that it improves fodder to cook or steam it. That warm shelter in winter saves fodder, and benefits stock. That the best blood is the most profitable. That there is much advantage in selecting the best seed, the earliest matured and the plumpest. That in-and-in breeding is not good in close and consecutive relationship, but must be carried on by foreign infusion of the same blood. That warm quarters and good treatment are necessary in winter to produce eggs from most hens. That topdressing grass lands should be done with fine, well-rotted manure, applied close to the ground. That it is, in general, best to sell produce as soon as ready for market. That blackberries require rich soil ; strawberries and raspberries vegetable mould—such as rotten leaves, chip manure, &c. That more lime should be used. That salt, in some cases, is good for land—also plaster, the phosphates, guano, &c. That full ploughing is best for clay lands ; that land should not be ploughed wet. That young orchards should be cultivated. That compost heaps are a good institution. That clay and lime, rather than animal manure, be employed in raising fruit. That manure should be rotted before it is used. That agricultural papers are an advantage to the farmer. That a cultivated mind is requisite to high farming, and that a good reputation exerts a good influence on the farming community.—*Rural World.*

MUCK.

 HE term muck is applied by us Americans to a variety of vegetable matter in various stages of decomposition ; found chiefly deposited in swales, woods, or low lands. The

different names of peat leaf mould, etc., are applied to one, and the same thing often, depending more on the state of decomposition, and locality, than in any other difference. Vegetable matter lying in water decomposes slow and proceeds only to a certain extent, as air is in a great measure excluded. This matter when dug out and exposed to the air proceeds in its decomposition until completed ; this vegetable matter it is which gives muck its chief value ; its being vegetable, and in a partly decomposed state, gives it porosity, a property enabling it when in a dry state to absorb liquids, grass, &c., and retain the valuable extracts held in solution by the same ; this being its nature, makes it one of the most valuable articles to absorb all liquid excrements from cattle, horses &c. and to mix with the solids to secure and fix the volatile parts. The importance of its free use for these purposes can hardly be over-estimated. The loss throughout a community, from the neglect and consequent waste of these rich manures, which, with a little care, might be saved is almost incredible. Were the importance of this waste generally realized by farmers and others it seems as if more attention would be paid to saving by means of muck, &c., either properly composted in the barn cellar, or supplied daily to the stalls of cattle, horses and hogs. No judicious farmer should neglect to save all such substances as tend to increase the value and productiveness of his lands. It is poor economy to buy concentrated fertilizers, or buy any manures abroad, till everything of the kind is saved at home. W. H. W. South Windsor, Conn.

MULCHING FOR WINTER WHEAT.

 DS. PRAIRIE FARMER:—Allow me to say a word to you and your readers about mulching wheat to prevent its winter-killing.

Wheat winter-kills in three different ways or at three different times during the winter. 1st. At the beginning of winter—rain falls and freezes as it falls, covering the ground with ice that kills the wheat. It was all killed in that way in this region last winter ; also a great deal of clover. In this case “mulching” does more hurt than good. 2nd. In dry cold weather and no snow, the wind blows the loose prairie soil away from


the roots and they literally "freeze out." In this case mulching will save it, as has been proven by experiment. 3rd. At the breaking up of winter, the thawing and freezing process kills it. In this case mulching is useless. Now if a farmer can, by his past experience, tell which of the three processes will be likely to kill his wheat we can judge whether it will "pay" to mulch to prevent winter-killing.

STEPHENSON CO. ILL.

J. G. FULLER.

We really do not see that our correspondent makes out much of a case against mulching. In one instance positive good results from it, in a second no harm is done, and we certainly fail to see where the injury can come in his third instance. If the ice kills the wheat without the mulch it certainly can do no more with it. Even if in two cases it does no good, it will pay well, in our opinion, to mulch that wheat may escape the third unfavorable condition. The expense is but little—the saving may be very great.

MANUFACTURING MANURE.



It is the duty of every farmer to manufacture all the manure he can, and also to apply it in the best manner to insure good crops. It is also the imperative duty of the farmer to save all that is made; thousands of dollars are annually lost by allowing the gases and liquids to pass off and go to waste. No part of a manure heap is of more value than that part which is capable of being washed out and evaporated. We need something that will absorb the gases that are generated in stable manure, something that will retain that which it gains; and I think muck is the best substitute for this *something* that is to be had, at least in this part of the country, or wherever there are beds of muck. Plaster, lime and ashes are good in their places, and in *many places*, but I think muck better than these, as far as their utility are concerned, in mixing with other substances used by the farmer as a manure. Muck has more power to absorb, and is less liable to allow the gases to escape when exposed. Yet I would not advise any one to abandon the use of these, and use muck alone. I would say, use them *all*, and do the best you can; if lime or ashes will not produce good results on one part of the farm it may on another. Cold and damp lands generally produce better by

underdraining and using clean stable manure to top-dress with, than by applying lime, ashes or muck. I have made use of lime and ashes with good results; ashes make one of the cheapest top-dressings for grass land, where the soil is light, loose and sandy, of anything I have ever tried. Last spring I took from the privy vault about eight bushels, three-fourths of which was muck that had been occasionally thrown in during last fall and winter; also, perhaps, one bushel of ashes; this I mixed with three loads of muck that had been allowed to remain where the waste water from the sink spout could run upon it. This muck and that taken from the vault, with one-half bushel of unslacked lime, was thoroughly mixed together and piled up; after remaining three days I planted corn on the most of it, using about one-third of a shovelful to a hill, and now the corn thus planted promises a better crop than any other part of the field. The whole field of corn was manured alike, about 40 loads to the acre of good stable manure spread on and plowed under. I used super-phosphate of lime in the hill on the rest of the field, but the compost is the best for the corn; a few hills were without super-phosphate, so that I know that the super-phosphate was of a good quality. I have used muck to plant potatoes on, with good results. I use the muck that has been in the barnyard through the winter, and put a shovelful to a hill of potatoes. Anybody would think that the muck was free from manure by the look of it when taken from the yard; but I have raised good crops of potatoes, they being less decayed and more smooth than those planted on clear dung.

Now, I think it very evident that by the use of muck I am able to save a large amount of valuable material that might be lost; the three loads of compost were equal to seven or eight loads of common stable manure, and perhaps more; the bulk taken from the privy was at least four times as large as it would have been without the muck; the three loads taken from the sink spout contained much value that might have been saved by using common dirt instead of muck, but it would not have been near as light to handle, or as free from stone. I have used muck alone on grass land, and it doubled the crop of hay. It should be well rotted before used, by allowing the frost to act upon it; it also increases its value by destroying the acid

it contains when first taken from the swamp.

CHAS. PURRINGTON.

Heath, Mass.

LIME AS A MANURE.



THE application of lime to the soil as a modus of enrichment, has been practised in all well-cultivated countries, at every period of authentic history. The axiom, for a long time received by some as the quintessence of wisdom—"That lime enriches the father, but impoverishes the son," embodies an error that has been, and still is productive of much harm. It is true that the wonderful fertility it produces, when applied in liberal quantities, and for several years in succession, ultimately falls off; yet this is no evidence that it must impoverish the land, as a natural and inevitable result. The same observation or maxim will be found equally applicable to gypsum, saltpetre, nitrate of soda and common salt, all of which are recognized as invaluable fertilizers, and capable of augmenting the productiveness of any soil to which they are judiciously and systematically applied. When, however, they are used liberally for a certain number of years, the land has been afterwards found to be weaker and less productive than before. It will require nearly four hundred bushels of lime to the acre, to add one per cent. to the soil. Most crops take not less than ten substances, one of which is lime, and if this be lacking—though the other nine elements or constituents may be in excess—the crop will not be perfect. By adding lime a luxuriant growth is secured; the application is repeated, but after a few years the crops fail—there is a diminution of product, no profit is realized, and the farmer is in despair.

One would suppose that a very slight degree of reflection would be sufficient to satisfy him of the *cause*. While he has been liberal in his applications of a material that supplies one ingredient, he has neglected the other nine, and, as a natural consequence, the soil has grown poor, and can no longer produce a remunerating crop. Allow me an illustration.

The iron smelter fills his furnaces with iron ore and coal—he applies fire but obtains no iron till he throws in lime. He adds this, and obtains a flow of metal. The dose is repeated and another flow fol-

lows; but no lime, this is discontinued, and to obtain more metal he is compelled to put in more ore and coal; then the lime produces its legitimate effects. So in the use of lime in agriculture. If we supply *only* lime, we shall certainly reap poor crops; but if, along with it, we furnish a supply of matters rich in the other ingredients of vegetation, we shall produce the advantageous effects resulting from the first application. Lime must have something to work on and with; it must be applied in conjunction with humus, or to soils in which humus already exists, or its application will be of no avail. The man who expects to reclaim a sterile soil by liming only, need not be surprised if he only has his labor for his pains.

The best method of using lime is to mix it with old lime, in the proportion of one-eighth lime, and to place it immediately in the hole with the corn. When used for other kinds of grain, it should be spread on the top of the ground after it is plowed, and harrowed in with the grain. No one can fully estimate the value of lime for this purpose, unless they try the experiment. The average difference in a crop is from one-third to one-half more by using lime. It is almost the only *sure* prevention of vermin on fruit trees in this section of the country. Lime placed about the body of the tree early in spring, will prevent their increase. Slacked lime, mixed with soap and water, used as a wash on the parts of trees where these insects have deposited their eggs, will destroy them entirely. This has been proved by the writer.

In many parts of England they estimate the value of their land in proportion to the nearness of access to the limekilns, on account of its valuable properties when used for dressing. Farmers should give more of their attention to this subject, and use lime more liberally where the soil is not calcareous.—*Cor. Ger. Telegraph.*

EARLY FALL PLOUGHING.



THE ploughing of land in the fall of the year is practised by many farmers merely to save time the following spring. It is a good practice, when viewed in this light, for the season of spring is so brief that there is always too much crowded into it, and it is well to lessen and lighten its labours if we can. But in this view of fall ploughing, the end is gained if

the work be done any time before frost sets in. There are, however, special advantages which can be secured by *early* fall ploughing. If it be stubble land that is ploughed, a crop of weeds is turned under, which might otherwise go to seed and give annoyance another year. The weeds together with the roots of grass and stubble of the cereals are converted into manure, during the mild weather that precedes the setting in of winter. If ploughing is done in cold weather, or just before frost sets in, the roots and stems will remain undecayed until spring. The turning up of fresh surfaces to the action of the weather before the season of growth is over, affords an opportunity for fertilizing gases to be absorbed, and fixed for the use of a future crop. The soil is not only a reservoir of plant-food, but it attracts that food, and when it is made to lie up lightly it is full of cells and interstices, each one of which is a little storehouse of nutriment for vegetable life. Moreover, early fall ploughing gives a chance for enriching the soil with the ammonia that descends in the rain-fall of thunder storms, a benefit by no means to be despised. Fall ploughing, whether late or early, exposes the soil to the action of frost and snow during the winter, by which important results are secured. It becomes finely pulverised, many fertilizing ingredients are made available, ammonia is absorbed from the snow, and stored away for future use, tough clay is softened, hard sods are crumbled, and nature is made to help and lighten the toil of man.

FALL SOWING OF TIMOTHY.

TIMOTHY is usually sown in spring along with a grain crop, and as is well known, there is always more or less of uncertainty as to its getting a good "catch." The grain, of course, comes on faster than the grass, and not only overshadows it, but extracts the lion's share of the moisture which the young timothy greatly needs in the earlier stages of its growth. It is considered that the shade afforded by the grain is favourable to the grass, preventing its being parched by the hot summer sun. This is doubtless true to some extent, but the shade is excessive, and being associated with a monopoly of the moisture, there can be no question that on the whole, the timothy has a pretty hard struggle to live. Evidence of this is furnished by the frequent partial or entire

failure of a seeding down. Sometimes drought prevents its taking well, and when the summer is moist so that it gets a good start, many of the young plants are crowded out by the thick grain, or trodden and crushed to death in harvesting, or trampled, torn out, and destroyed by the pasturing of cattle and pigs in the stubble. Under the most favourable circumstances it is questionable whether spring sown timothy will cover the ground as well the following season, as that which is sown in the fall, provided the ground is properly prepared and the work well done. We believe that where a due amount of attention is paid to the getting in of the seed, fall sowing will result more satisfactorily than spring sowing. Generally speaking, farmers grudge the same trouble and labour on grass seed as they bestow cheerfully on all other crops. But being smaller and more delicate, the seeds of the grasses ought to receive greater care than those of larger and sturdier crops. The gardener sows his finer seeds with special care, mellowing the land as much as possible, and even dusting the tiny seeds with soil passed through a sieve, so as to give them the best possible chance of germination. So should the farmer bestow extra attention upon his smaller seeds. Thorough preparation of the land for a timothy meadow will pay, and a stubble field re-ploughed, harrowed, and seeded down in the fall, will yield a far better crop of grass the following year, in nine cases out of ten, than the same field would have done with the timothy sown along with the grain. Not only should the soil be well mellowed for a fall seeding of timothy, but the now general use of mowing machines renders it necessary that the ground should be free from stones, grubs, and stumps; also that the surface be made as level and smooth as possible. The success and profit of the crop will also be enhanced by this course. From the beginning of September to the middle of October, timothy may be sown with good chance of its doing well. The earlier it is got in, provided the ground is moist enough and the weather favourable, the better the plants will become rooted before winter, and the more able they will be to withstand the effects of the late fall and early spring frosts. A bushel of seed will sow six acres. Some sow less than this. A gallon per acre is considered sufficient by many. It is better, however, to sow grass seed with a liberal hand, and make sure of putting on enough.

BREEDERS' DEPARTMENT

SENSIBLE HORSE TALK.

HORSES that labor require grain apportioned out at regular intervals—about three times per day for slow work and five times for fast work. They require a thorough dressing at least once a day, and should be cleaned and rubbed dry after severe labor. The comb and brush remove the dirt from the roots of the hair, and a linen cloth or wisp of straw polishes the coat and gives it a fine silky appearance. All tend to open the pores of the skin and keep up a healthy action of insensible perspiration, which fits the horse to perform more labor without injury. Hand-rubbing the legs from the knee and hock downwards stimulates the arterial circulation, which is essential to great speed. Grooming improves the health, increases the vigor of action, cleans the skin of all impurities, which become a self-generating oil conductor that moistens the hair and gives it a healthy, glossy appearance. The horse should be led from two to four hours before being put to severe labor. Racers are allowed no hay on the days of racing until their labors are over. It prevents free respiration and loads them down with useless weight. They need free action. Digestion ceases in nervous excitement. The overtaken horse should be cooled gradually with the body. They have been raised to the highest tension by severe exertions; they should be brought to the mean temperature by exercise.

Flesh worked on to a horse gives him a preternatural power, a more solid and permanent condition, than flesh put on in the stable; young colts and working horses must be kept in good condition. It is a passport to favor with the buyer, that the horse has two years of good keeping in him. "Starvation checks the growth and destroys the shape; horses that have been ill-fed when young are almost invariably small, long-legged, light-carcased, and narrow-chested." They may be over fed. Those wide deep chests and broad loins will over-gorge themselves with hard food, and cause their legs to stock, or founder the chest. High feed, without sufficient exercise, loads the system down with fat, which fevers up the body and pounds out the legs. Greedy eaters must be stinted to a moderate supply of

grain. It will improve their action, health and condition.

No wild horse, or tame horse in his natural state, can last a single day with one trained or seasoned—fitted up to the staying point. Drawing or sweating the horse by active exercise is one of the agents of conditioning him to endure labor. It lightens the carcass, and improves the wind for long-road-work. Taking away the surplus fat gives the lungs more room to expand, and blood-vessels and air-tubes have ample space for active and free circulation. These are the engines that propel the muscles. The horse in condition has the ability to breathe rapidly, and can travel fast. It increases the pulsations of the heart, which shows the active circulation of the blood. The more air they consume, the longer they last. The horse that has large nostrils, chest and wind-pipe, has the best wind. Their wind will outlast their legs.

Training must be apportioned out according to the constitution. The robust horse may require a sweat once a week, while the delicate nervous animal may not require any drawing. The high-spirited horse will not stand fast work without much repose; constant exertion will impair their condition. Condition is preserved by health, food, and exercise. The want of condition may destroy a good horse in a single journey. Founder, sprains, puffs and spavins are the consequences of overtaking an unseasoned horse. He must have a previous preparation corresponding to the labor required. No horse can endure ten miles an hour on the road or race course, for any length of time, without being fitted for the task. He must have the vital, action clear, and the physical condition firm to stand the wear and tear of long drives.

Early maturity gives value to the horse. The colt that matures at three years old is worth twice as much as the animal that matures at six. If the former cost fifty dollars to raise, the latter would cost one hundred dollars. One is no more subject to premature decay than the other, provided they are broken upon the principle of exercise and weight for age. The ability to perform young depends upon the constitution. The same cause that enables the colt to perform service will operate upon the old horse. One of the highest encomiums passed upon

the horse is that he lasts all day—good on the last quarter! exclaims his eulogist. If he gives out at noon he would amount to but half a horse. Endurance is one of the attributes of a sovereign will. It measures distance as strength measures weight. The more power that can be crowded upon one horse, the less in number will be required to do the same business. The saving power of machinery diminishes the cost of production. The saving of labor by horse-power increases the means of production.

The formidable labors imposed upon the horse require supernatural exertions. He is tasked to perform incredible labors. Loaded down with oppressive weights, he covers at no distance. In the midst of battle he bounds in fearless majesty over the cannon that threatens his destruction, and defies the bayonet or leaded messengers of the rifle. He is harnessed to the booming cannon to destroy life, and to the ambulance to gather up the wounded soldier to restore life. In the charge at the head of the column he greets the enemy with the prestige of the conquering general, whose sword has been drawn to save liberty, or to perish a martyr in her defence. When war has done its work, he returns to the plough, where he becomes as docile in the furrow as he has been furious in battle. The mower and reaper has not lost its servant, nor the thresher its great motive power.

Peace is the mission of the horse. He increases with the advance of civilization, and becomes of practical importance with the diffusion of the arts and the progress of enlightened economy. As the joint tenant of land and labor, he fosters the national production. Land is the source of production, labor is the material of wealth.—*Cor. Wilkes' Spirit,*

ORIGIN AND HISTORY OF THE PERCHERON NORMAN HORSE.

A Pure Race—Characteristics and Points—Importation into this Country.

WE have had occasion to speak of the Percheron Norman horse, which has been in former days introduced into this country; believing that the knowledge of this race, and still more of its existence in the United States is confined to a small number of persons, and for the most part a to single locality, we have thought it would be not uninteresting to our agricultural readers to give a brief account of the animal, its deriva-

tion, its importation into this country, and of the benefits which are, we fully believe, to be derived from its employment.

In the first place, then, Le Perche is a district of that portion of France which was formerly known as Normandy, in which the breed of the Norman horses has been most highly cultivated, and exists in its most perfect form and improved condition. Indeed, by some means somewhat anomalous, and at variance with the general experience and principles of breeding, this breed, which must in its origin have been a cross, has, in the process of many ages, become a family perfect in itself, capable of transmitting its qualities and reproducing itself, like to like, without any loss of energies or characteristics by breeding mares and stallions of the same race together.

The remarkable purity of the race is attested by the certainty with which the stallions transmit to their progeny, begotten on mares of a different race, their own characteristics, and the high degree in which the offspring of the mares, bred to horses of superior class, retain the better qualities of their dams. For it appears to be a certain, rule in breeding, that the purer the blood, and the higher the vital energy and vigor of either parent, in the greater degree does that parent transmit its properties to the young—although, as before insisted upon the certain transmissions of the larger portion of those energies is always on the stallion's side, and it is only in the longer retention of an inferior proportion of her qualities by the progeny that the better blood of the dam can be traced when bred to an inferior sire. When bred to a purer blooded stallion than herself, the more pure blood the mare herself has the more strongly will her own marks descend to her progeny, and the less will they be altered or modified by those of the sire.

The Percheron Normans are clearly a pure race
per se.

We do not mean by the words, a thoroughbred race, but a race capable of producing and reproducing themselves *ad infinitum*, unaltered, and without deterioration of qualities, by breeding like sires to like dams, without infusion of any other blood, just as is done by Durham, Ayrshire, or Alderney cattle, by setters, pointers, greyhounds, and, in a word, by any and all animals of distinct and perfect varieties of the same species. The only remarkable thing in this case is, that such should be the facts, under the circumstances, of the Percheron

Normans, being originally—as they are beyond a doubt—the produce of a cross, although a most remote cross in point of time.

The original Norman horse now nearly extinct, which was the war-horse of the iron-clad chivalry of the earliest ages—of William the Conqueror, and Richard Cœur de Lion, is thus accurately described by the importer of the Percherons into New Jersey: “They average, he says, and we are personally cognizant of his accuracy,” full sixteen hands in height, with head short, thick; wide and hollow between the eyes; jaws heavy; ears short, and pointed well forward; neck very short and thick; mane heavy; shoulder well inclined backward; back extremely short; rump steep; quarters very broad; chest wide and deep; tendons large; muscles excessively developed; legs short, particularly from the knee and hock to the fetlock, and thence to the coronet, which is covered with long hair covering half the hoof; much hair on the legs.”

It was soon found even while complete armor was in use, that these enormous, bony Normans, which are still though deteriorated the ordinary, heavy draught horses of France, had not sufficient speed to render the cavalry charge effective, or sufficient blood to give spirit adequate to the endurance of long-continued toil. The Andalusian horse, which in its highest form, was a pure barb of Morocco, imported into Spain by the Saracen Moors under Tarik, who has left his name to the rock of Gibraltar, and in its secondary form, a half-bred horse, between the African bards and the old Spanish horse, which had long before received a large tincture of Oriental blood from the Numedian chargers of the Carthaginians, who so long occupied that country, proved, in its unadmixed state, too light for the enormous weight of a caparisoned man-at-arms, or, if occasionally equal to that weight, too costly to be within the means of any but crowned heads. “The bone and muscle,” observes the same writer we have before quoted, “and much of the form of the percheron, come from this horse”—that is, from the old Norman war-horse previously described; “and he gets his spirit and action from the Andalusian. Docility comes from both sides.

On the expulsion of the Spaniards from the Northern Provinces, the supply of Arabian stallions was cut off, and, since that time, in the Perche district of Normandy,

their progeny has, doubtless, been bred in and in; hence the remarkable uniformity of the breed, and the disposition to impart their form to their progeny beyond any breed of domestic animals within my knowledge. Another circumstance which, I think, has tended to perpetuate the good qualities of these horses, is the fact of their males being kept entire; a gelding is, I believe, unknown among the rural horses of France. You may be startled at this notion of mine, but if you reflect a moment, you must perceive that in such a state of things—so contrary to our practice and that of the English—the farmer will always breed from the best horse, and he will have an opportunity of judging, because the horse has been broken to harness, and his qualities known, before he could command business as a stallion.”

There can be no possible question that the writer is correct in this view of the advantage, so far as breeding is concerned, of preserving *all* horses entire and ungelded; as it must naturally and necessarily follow, where a great majority of the males of any breed are gelded when young colts, and a few only are selected to some extent by chance to serve as stallions, that many of the very best, and perhaps actually the best, of every year, are deprived of the means of perpetuating their excellence. This undoubtedly, is one of the causes of the constant preservation, if not improvement, of the race-horse; that, inasmuch as thoroughbred colts are never, unless from some peculiar cause, such as indomitable vice, deprived of their virility, the breeder has *all* the males of the race from which to select a stallion at his pleasure, instead of having only a small number from which to select. Yet even in the thorough-breds the breeder sometimes has cause to regret the caprice or error of an owner, which has allowed a colt to be deprived of his sex, whose after qualities proved him to be eminently worthy and pre-eminently adapted to become the father of a noble line. Who, for instance, but must regret that St. Nicholas, that noble specimen of a race-horse, perhaps the best now running on American soil, should be a gelding, and incapable of transmitting his blood and his honors to posterity?

The points of the peculiar breed known as the Percheron Normans.

First, they are considerably taller than the Canadian horses, among which, it is believed, the Percheron blood is still to be

found, though degenerated in stature, from cold, exposure, and ill-usage. Their standard is probably from fourteen and a half to fifteen and a half hands the latter height, however, being as much above the average, perhaps as sixteen hands is above that of ordinary horses. Secondly, they are very short in the saddle-place, and comparatively long below; they are well ribbed-up and round-barreled, instead of having the flat sides and sway backs which are the most defective points of many of the Canadians; they have not the heavy head and extremely short, thick neck of the old Norman horse, and many of his descendants on this side of the ocean; but, on the contrary, have the head short, with the genuine Arabian breadth of brow and hollow of the profile between the eyes and nostrils, which is often called the basin face; nor are their heads thicker, especially at the setting-on place, nor the necks, which are well arched and sufficiently long, heavier or more massive than corresponds well with the general stoutness of their frame. Their legs are particularly short from the knees and hocks downwards; nor, though heavily haired, have they such shaggy fetlocks and feet as the larger Normans or Canadians, while they have the unyielding, iron-like sinews and feet, apparently unconscious of disease, for which the latter race are famous.

An English writer in *The British Quarterly Journal of Agriculture* speaking of the general working-horse of Normandy, says: "The horses of Normandy are a capital race for hard work and scanty fare. I have never seen such horses at the collar, under the diligence, the post-carriage, the cumbrous and heavy voiture or cabriolet for one or two horses, or the farm cart. They are enduring and energetic beyond description; with their necks cut to the bone, they flinch not; they put forth all their efforts at the voice of the brutal driver or at the dreaded sound of his never-ceasing whip; they keep their condition when other horses would die of neglect and hard treatment. A better cross for some of our horses cannot be imagined than those of Normandy, provided they have not the ordinary failing of too much length from the hock downward, and a heavy head."

The two points last named are precisely those which are entirely got rid of in the best style of Percheron Normans, which are, as we have stated, those of the Normans, most deeply and thoroughly imbued

with the Arabian, or, to speak more correctly, Barb blood of Andalusia. It is not easy to procure the best and fastest stallions of this breed, as they are bought up by the French Government for the diligence and mail service, for which they are highly prized, and in which they are constantly kept at a pace varying from five to nine miles an hour, over roads and behind loads which would speedily kill an English or American horse, without loss of health or condition. But there is no difficulty in obtaining the choicest mares at comparatively low rates—mares being little valued for work in France. Mr. Edward Harris, of Moorestown, N. J., who has been at much pains to import fine horses and mares of this breed, asserts of his horse "Diligence," that he has produced above four hundred foals—that he has never heard of his having produced one worthless colt, or one that is spavined, curbed, ringboned, or has any of those defects which render utterly useless so large a number of fine-bred colts of the present day.

Norman stallions are the only male horses which we would ever put to any *lighter* mares of American blood; but we are strongly of opinion that both the Morgan mares and the ordinary better class of Canadian farming mares, which have some indefinitely remote cross or better blood than the cart-horse, can be made to produce a progeny highly improved, hardened in bone, bettered in legs, feet, and constitution, and more adapted for being the mothers of fine, large carriage-horses, by breeding them to Normans, whether native or imported. It is a remarkable quality of the Normans, that though small themselves, when crossed,—either males to other races, or females to thorough-breds,—they almost invariably breed larger instead of breeding smaller than themselves.

This breed from which has sprung the well known Canadian horse has not been imported from France for the last 150 years. The Beauharnois Agricultural Society, believing as we do that an infusion of new blood from the original Percheron Breed would improve considerably the native horses, has determined to import a stallion from Normandy thus following the example of the United States. A veterinary surgeon, in company with one of the members of the Society, are now choosing in France the best stallion for our circumstances and we may expect early in October to possess in Canada one of those powerful ani-

mals which have created in the United States such a deep interest amongst horse breeders. We must congratulate the Beauharnois Agricultural Society on this bold move and our periodical in obtaining such a great result by our writings on this subject.

AGE AT WHICH BULLS SHOULD BE USED.

Effect on the Progeny.

WE clip the following from the Farmer's (Ireland) Magazine: "We have seen a letter from a short-horn breeder, in which the writer considers that bulls in the present day are used at too early an age, and is of opinion that modern short-horns are less in size and not so robust as they were formerly, in consequence of the youthfulness of sires. "Short-horn breeders," he says "are ruining their herds by using young bulls. Bulls should not work before they are two years old, and not come into heavy work before three." Unfortunately, the first three volumes of the Herd Book are often so defectively supplied with dates that a reference to them for the ages at which noted sires began to work cannot be expected to impart a completely satisfactory amount of intelligence; and yet, scanty as they are in these records, there is enough to indicate that the principal short-horn breeders at the end of the eighteenth and the beginning of the nineteenth century did not act in harmony with the judgment of our friend. With regard, for instance, to Mr. Charles Colling's famous bulls Favourite, Foljamb, Cupid and Comet, they were fathers of stock at a very early age. There was progeny from Pomet when he was two years old. Begotten, of course, when he was but little above one, Cupid was born in 1799, and Countess his daughter was calved in 1801; Kate and Red Rose, by Comet, came into the world in 1806, their sire being born in 1804; and Foljamb, the sire of Bolingbroke, whose birth took place on the 12th of November, 1788, was calved in 1787. Neither did Mr. Robert Colling object to an early use of bulls. His cows Venus, Lavinia, Princess, Clara, and Amelia were all calved in 1816; Lancaster, their sire, in 1814; Trinket, by Barmpton, was calved in 1812; Barmpton in 1810. The herd of Mr. Mason bears the same testimony. The bull Chilton was calved in 1803, and had many sons and daughters in 1805. Dr. Syntax, one of the most famous

of the Chilton bulls, was born in 1820, and his sire Mars in 1818; and Dr. Syntax himself was the father of a goodly number of calves when two years old. So was Irishman; so was St. John; so was Falstaff; so also were Cato, Jupiter, Charles and Henry. The bull Monarch (2324) calved in 1826, was the sire of several animals born in 1828, among whom was Mercury. Bonny Face (807), a splendidly bred beast, was calved in 1823; and in 1825 his celebrated son Matchem (2281)—if, indeed, Matchem was his son—made his appearance; but whether Bonny Face or St. Albans got Matchem is not material to the question, since Bonny Face was certainly put to Matchem's dam (Farmer Cow) as a yearling, and was the father, at two years old, of many calves. So was Matchem. These examples, gathered from the herds of Charles Colling, Robert Colling, and Mason of Chilton, may suffice. They could be easily multiplied; and other herds, if there was cause to extend the inquiry, would support them. Mr. Hutchinson, of Grassy Nook, may be adverted to as using his bulls at a very early age; and Mr. Bates, not only in later years, but in the more distant periods of his career, invariably did so. With regard, then to the proposition that short-horns formerly were superior of size and constitution to modern short-horns, some other reason than that advanced at the beginning of this article must be assigned for the difference."

DURHAM CATTLE.

THE short horn Durham cattle hold their reputation well, wherever bred; and the prices at which they are sold remain as high as ever. Mr. Thorn, of Duchess Co., N. Y., paid \$5,000 for a Durham bull a few years ago in England, and was offered a fair advance on that price, by a gentleman who wanted to retain him in that country.

The Durham are best adapted to smooth, rich lands, where the grasses grow very luxuriantly—pasture lands where clover grows a foot high all over the field, is what they need.


As milkers, it is only occasional animals that are noted for the large quantity of milk produced, not every cow, nor so many of them as to render that breed particularly desirable as dairy cows; but for *beef* no cattle in the world excels them, in the quality of the beef, and the weight of carcass.

A good young Durham cow, pure blood, is worth from \$200 to \$300, and yearling heifers about \$100; and they will, probably, bring those prices for many years to come.

Our native cows are much improved by crossing with the Durhams, as many stock breeders can testify.

THOROUGH-BRED STOCK FOR SALE.

J. Perrault, M.P.P. Editor L. C. Agriculturist.

 IR,—I have instructions to offer for sale, at very low prices, a Stock of Thorough-Bred Short-Horn Cattle, "prize taken at Provincial Exhibition, 1865," consisting of three Cows, aged respectively 4, 5, and 7 years, good milkers in quantity and quality, high flesh, sure getters, and, in every respect, profitable to the farmer; one Heifer Calf; two Bull Calves; two Bulls, two years old.


An excellent and rare opportunity for improving stock is thus presented to proprietors of Model-Farms and County Agricultural Societies.

Also—A valuable Brood Mare, "well bred," and possessing excellent points—now in foal to the imported horse "Canwell."

Also—Her Foal of this Spring, a model of beauty and symmetry, possessing, in a marked degree, the points of his Sire "Canwell," chestnut color.

For Pedigrees, prices, &c., address
L. SEWELL, Peter Street, Quebec,
Acting for proprietor, JAS. A SEWELL.

COERCING HENS.

 LADY correspondent of the *Mobile Advertiser*, writing from Kansas, relates the following extraordinary circumstance:—

After breakfast, I was surprised to see my landlady go out, and catching her hens, tie each one's legs together, and throw them upon the ground, with "there, be good."

"What did you do that for?" I asked.

"To make 'em lay," she answered.


"Make 'em lay, will that do it?" I inquired.

"La yes," she said, "didn't you ever hearn tell of that before?"


I confessed that I had not. In an hour she went out again, and picked up the hens; sure enough, some had laid, those she let go, and they ran off, not even cackling their gratitude. But those hens which

seemed disposed to be contrary, she struck on the back, saying—"You'd better lay—you'd better lay, for you won't go until you do," and in a little while they, too, had recompensed their mistress for feeding them so bountifully. She says she does so every morning, and the hens know well enough that "they have got to lay."

AVERAGE EGG YIELD.

 N a late number of the *Country Gentleman* a poultry raiser said that from 35 to 40 eggs a year, was the best average he had been able to get from about a dozen hens. This slander on Miss Bidley's character brought several champions at once to their feet. One gentleman in Ohio has 30 hens, which in seven months from January 1st, had averaged 71 eggs. Another correspondent had picked up 1,510 eggs, from 10 pullets of the white Leghorn variety, from the first of last September, to the first of July this year, or 151 each in ten months. Still another, from 10 Brahmas, has had 738 eggs, or nearly 74 each, from March 1st, to July 31st, besides raising 60 chickens.

THE MONTREAL VETERINARY SCHOOL.

 N a recent issue we expressed a hope that an effort would be made by the Board of Agriculture to establish a school for Veterinary instruction in the city, we have now much pleasure in directing the attention of our readers to the advertisement in another column. We are very much pleased to see that this matter has been taken in hand not only by the Board of Agriculture, but, the Medical Faculty of McGill College have also given it their aid and influence, by granting the use of one of the lecture-rooms on the medical school and admitting the Veterinary pupils to such lectures as they require at reduced rates. The very fact that it is countenanced in this way by the heads of the medical profession is a sufficient guarantee of its standing. The management of the school will be conducted by Mr. D. McEachan of whose qualifications for the appointment, it is sufficient to quote the following resolution which was passed by the Board of Agriculture U. C. on the event of his removal to Montreal.

"Resolved: That this Board learns with great regret that it is the intention of Mr. McEachan to remove to Montreal, and while thanking him for his valuable Pro-

essional services rendered for three sessions to the Veterinary School of upper Canada, cordially recommend him as a competent and skillful practitioner of the Veterinary art, and, appreciating the worth of his personal as well as professional character heartily wish him success and happiness on his new sphere of action.

(Signed.)

D. CHRISTIE.
President.

The inducements held out to young men in the shape of *bursaries* enabling them to attend the full course free of charge will we have no doubt be fully taken advantage of, and we would recommend those who intend applying for them to do so at once. These bursaries are granted by the Board of Agriculture and may be obtained by applying to the Secretary either by letter or personally. We are glad to see that the instructions are not to be confined to regular students; an opportunity is given for amateurs to obtain a knowledge of the structure, management and diseases of the horse which we have no doubt will be largely taken advantage of by the young gentlemen of the city and country.


Of the necessity there is for proper instruction on this subject, every one who is interested in such matters is long ago convinced. It may not be generally known that in Canada there are not more than nine Veterinary Surgeons practising who hold diplomas from any recognised school, of

these, six are practising in Western Canada three are graduates of the Edinburgh Veterinary College, and three hold the Diploma of the Upper Canada Veterinary School, the other three practice in Lower Canada, two in Montreal of whom one holds Diplomas from both the Edinburgh Veterinary College and the Royal College Veterinary Surgeons, London, the other that of the latter only, and the third who practices in Quebec is a graduate of the London college. It will be thus seen that we are far from being overstocked with qualified men, though empirics are numerous enough in both town and country. When we come to consider the vast numbers and great and increasing value of our stocks of horses and cattle, we wonder that something was not done long ago to supply educated practitioners to treat them when labouring under disease. Now that through the instrumentality of the Boards of Agriculture we have two veterinary schools, we hope that they may be the means of placing the profession in its proper position in the province and that being strengthened by numbers and by a better intellectual standing will be able to assert their rights and claim the privileges due to their important mission.

We would recommend all who are interested in horses or agricultural stock to do all in their power to induce young men to embrace the opportunity thus afforded of gaining knowledge on a very important subject.

ENGINEERING DEPARTMENT.

THE REAL BENEFIT OF MACHINERY.

OSE who depict so eloquently the pleasures of modern farming by machinery, draw more on their imagination than their experience. I have tried it, and while I do not despair, I am often discouraged. I have a machine with which I can, and do turn the grindstone, cut fodder, thrash, grind the grain, drive the cider mill, saw wood in the log with a drag saw, or cord wood with a circular saw. This it will do, and do well, but oh, the care of keeping all these things in order and getting them to work well. I have a potato planter, that at one operation marks out the rows, cuts the potatoes, drops the sets, covers them up, and rolls the grounds. Also one that drills twelve acres

of corn and beans in a day, and does the work well. We have cultivators that leave very little to be done with hand-hoes. We have mowing machines and reapers that leave little to be desired in this direction. The tedding machine shakes out the hay as well as it can be done by hand and five times as fast, the wooden revolving rake pulls it into wind-rows, a pitching machine attached to the back end of a waggon will carry the hay on to the load, and a steel toothed sulky rake makes all clean. Then at the barn we unload with a horse fork, and the farmer can sit in the shade smoking the pipe of contentment as he witnesses the operation. Then we have a machine for milking cows, and another to work the butter, while, if you make cheese, the Ame-

rican vats and presses make the labor mere child's play, compared with the old Cheshire system. I have not tried these last named machines, but I have little doubt that they work as well as some of the others I have named. The grain binder, too, I have faith enough to believe will soon be attached to every reaper, and then with a steam plow and a good potato digger, won't farmers have an easy time? Not a bit of it. If these things would run themselves; if they never got out of repair; if they had no disposition to lie round loose, but would put themselves up, then indeed we should be "gentlemen of leisure." But this will never be. We can change our work, but we can never get-rid of it. If we do not work with our muscles, we must with our brains. And the encouraging feature of this age of invention is not that these "labor saving machines do the work so much cheaper, as that they change the character of the labor required in agriculture. They lessen back-breaking drudgery, and increase mental activity. A farmer who uses a good deal of machinery cannot be dull and stupid. It will make a man of him. I expect great things from the young farmers of America. There is everything to encourage them; soil, climate, social position, political influence. The destiny of the country is in their hands. But they must not expect lives of ease and luxury. Brains rather than muscles will be required in the new condition of our agriculture. Machinery will stimulate mental activity, and encourage the growth of that rare grace, patience!—*Harris, in Am. Agriculturist.*

PUTTING A SAW IN ORDER.

ALTHOUGH it is something of a task to set, joint, and file a saw in proper shape, yet three-fourths of the farmers that now carry their saws to some mechanic to be put in order, might as well do the job themselves at home, and save both time and expense.

A few instructive hints may not be amiss. First, the saw should be set; this may be done by laying the blade flat upon a piece of heavy plank or scantling, and bending the teeth with a hammer and punch. The set, or punch, can be made of a three-cornered saw file, broken off at each end, and the smallest end ground square. Set the punch square upon the tooth, but inclined from you, so that it rests mainly upon the point of the tooth, and hit it a light blow with the hammer. Every other

tooth should be bent in this manner, then the saw turned over, and the operation repeated. The set already in the saw will be the guide as to the direction the tooth is to be bent. If the saw, previous to setting, is inclined to catch and jump, one of three things is the matter; the set is uneven, a few teeth are longer than the rest, or the teeth have been filed hooking. Either of these troubles can be easily detected and remedied. If by looking along the teeth from end to end, an unevenness is seen, lay the blade upon the head of an axe, or something of the kind, and strike gently upon the sides of the teeth with a hammer until all of the set is removed; then set the saw as above directed. If after the saw is properly set, some of the teeth should be longer than others, put the blade between two thin boards, three or four inches wide, and as long as the saw; screw them firmly in a vice, the same as for filing, and run a flat saw-mill file lengthwise along the teeth until they are brought level. The saw is now ready for filing. The file should be placed between the teeth in a diagonal direction, but held level. Every other space should be filed from the small end to the handle; then the remaining spaces filed by holding the file at an opposite angle. After this operation is completed, then look across the teeth again, and if the channel between the rows of teeth terminates in the centre, the filing is good; if it terminates at one side of the centre, the full side needs more filing. If the saw catches and jumps after jointing up, it will be owing to the teeth having been filed too hooking, or, in other words, the points inclined too much towards the narrow end of the saw. This can be remedied by re-filing, and taking off from the lower side of the teeth enough to make them stand upright on the blade.

With a little practice, all of the difficulties in making a saw run well, and cut well, can be overcome; and almost any farmer can keep his wood and hand-saw ready for use.

MEMORANDA ON LAND DRAINAGE.



R. John C. Morton, one of the most practical and accomplished English writers on agriculture, contributes the following directions on the subject of under-draining, to the *London Agricultural Gazette*. They will be of

material service to farmers in this country; for while, in the matter of depth, there is some difference of opinion among those who have had the most experience in this country—and in the matter of cost, Mr. Morton's figures do not apply,—in his "memoranda" of previous considerations to be regarded, and calculations of distances apart and lengths of drains, he speaks from extensive practice, and wide observation:

1. In the first place, arrange the whole plan for the whole estate before commencing a single field. Do not fritter away your means in laying one field after another dry on plans proper enough for each, but not well fitted to one another. This is especially good advice where a whole estate, comprising several farms, is taken in hand for improvement. The selection for an outfall, and the fitting it for its purpose, the removal of spring water, the order in which the work shall be done, which is determined by two considerations, viz.: 1st, the necessity of working from the final outfall upwards; and 2nd, the possibility that water removed from one part may lay dry another; so that here, as opposed to the other consideration, the necessity may arise, or rather the propriety may be indicated, of draining a higher field first of that water which is thus hindered from re-appearing below—all these are, to use the words of the politician, not local, but imperial questions, needing attention in the first place. The arrangement of the plan for the whole estate should, in fact, be attended to before any of the work is commenced.

2. Next, get a permanent and sufficiently deep outfall, to allow, if possible, an easy fall from four feet below the lowest part of the land.

3. Remove all spring-water—tap all porous and water-logged beds—and in general provide, in the first place, for the removal of all the water which comes upon the land, or any part of it, otherwise than directly from the clouds. To this end straighten all water-courses, leaving, however, as few open ditches as possible.

4. Lay drains in all habitual water-courses; humour and attend to the habits which the water of the estate has acquired, if you mean to obtain an immediate result. Let this, in the case of grass lands with deep ridges and deep intervening furrows, go the length of inducing you to put drains in the furrows, however they may lead you, rather than up and down the slope in straight and parallel lines, with uniform in-

tervals, disregarding the old ridge and furrow arrangement.

5. When all this has been done, then begin the drainage of the estate—field by field—the lowest first, and proceeding from the lowest part of each to the upper part. Dig a main drain with sufficient fall along the foot of the lower field first, about 8 yards or thereabouts from the hedge, and 4 feet 6 inches deep or thereabout, *i. e.*, somewhat deeper than the drains which run into it, and wide enough in the bottom to take a 3 or 4 inch pipe—one large enough, at any rate, to take all the water which is likely to run in it.

6. Dig trial holes here and there across the face of the slope, 4 feet deep, and try the effect of a single narrow drain, 4 feet deep, taken right up the slope in their midst; and learn from the distance at which this minor drain will empty these holes, the intervals between your drains, which in each field you will adopt.

7. Your minor drains should be 4 feet deep, both for the sake of their permanence and efficiency, and for the sake of the greater quantity of earth per acre which will thus be fertilized for the use of plants. They must take a two-inch pipe up to near the top of each; a one-inch pipe will suffice at the upper end, where less water runs. They will be from 7 to 8 yards apart, in homogenous clays—10 to 12 yards apart in freer and more open soils; and any greater distance in rocky or gravelly subsoils, which are unable to discharge their water naturally, but which a single deep drain will often lay for dry acres, by the artificial outlet thus provided.

8. As the way in which, when the method which any field requires has been determined on, the work is actually set out, it may suffice to mention that the place of each drain right down the slope should be pegged out, and (especially in the case of grass lands) the line itself may then be opened up by the plough, which will, with horse labour, thus take out to its full width the first six or eight inches of the depth. A working man of ordinary size can easily stand and work in a drain 3 feet deep, if it be a foot to 14 inches wide at top. He stands in such a drain, and takes out the remaining foot in depth, making a 4 foot drain without difficulty. In the case of a drainage match held some years ago before the Hertfordshire Agricultural Society, there were 17 sets of men at work, and the prizes went for drains 12 inches and 11½

inches wide at the top respectively. One drain was opened 4 feet deep, with only a 9-inch opening at the top.

9. As to the cost of the work, earth capable of being lifted in masses by the grafting tool can be put into barrows for 2d. per cubic yard; and the difficulty of working in a narrow drain adds only this much to the cost, that the labour of cutting and lifting earth in making drains varies from only 2½d. to 2½d. per cubic yard. A 4 foot drain thus costs from 6d. to 8d. per rod for cutting it.

10. Let us here enumerate the items of cost per acre. If drains be 5½ yards apart, 880 yards are needed per acre; if 8 yards apart, 605 yards per acre are needed; if 11 yards apart, 440 yards per acre will be required. If the mere cutting be 6d., the cost of opening the drains will be £4, £2 15s., and £2 per acre; if it be 8d. per rod, the cost will be £5 6s. 8d., £3 13s. 4d., and £2 13s. 4d. per acre respectively. If the tiles used be 2-inch pipes, at 20s. per 1000, they will cost 50s., 36s., and 25s., per acre in these several cases. If collars be needed to connect the tiles, you must add one half more on their account. Add some 5s. an acre for superintendence, and 1d. per perch for filling in the earth after laying the pipes; and you have as the cost of drainage £10 to £8 per acre, according to the quality of the work, in near drainage, and £4 10s., to £6 per acre, according to the character of the work, in the wider drainage. The average cost under ordinary circumstances, including the extra cost of mains and outfalls, may be put at £5 per imperial acre. There cannot be a doubt that, thus adding from 8 to 10 per cent. to the cost of the estate, they often result in an increase of 30 to 50 per cent. of its value.

FARM BUILDINGS.

The House.

BUILDING a house destined to be the home of the builder and his family, is a matter that ought to receive a great deal of thought and consideration; but no subject receives less, in proportion to its importance, especially among farmers of limited means, many of them seeking the cheapest possible method of building, regardless of durability; others try to make a show by putting all the means at their disposal on the outside, at the expense of all convenience in the interior arrange-

ments. A farm house should combine durability, convenience, taste; but the builder should never seek the latter, to the exclusion of the former, a cheaply built house being the most expensive in the end, and a convenient one costing no more than one otherwise constructed. In deciding on a plan, study it well, and endeavor to so perfect it, than in after years you will not be obliged continually to alter and remodel to have it meet your desires. Keep convenience and an adaptability to the use of the family always in view, and many after regrets will be spared.

In selecting a site, choose if possible a dry piece of ground, as near as practicable to the outbuildings, and also near the water used in the house, which, if not pumped or running in the house, should not be many feet from the door. If the location is not dry, make it so by thorough underdraining. After digging the cellar the required depth, dig a trench one foot in depth around the cellar where the wall is to stand, and fill with pounded stone, or coarse gravel, and dig the drain so that the water will run from the bottom of this trench. The drain may be filled with the same material. Start the wall on this trench, and build a good solid one, not less than two feet in thickness, and the first four feet from the bottom lay one foot in lime and sand, and the remainder to the top lay in mortar clear through, except about four or six inches in the centre, which space is left as a sort of air chamber to stop frost, and if no stone is allowed to reach through the wall on the last two feet, I will warrant the cellar never to freeze, if the windows and doors are kept closed in winter. A few dollars over the ordinary cost of cellar walls will render it frost and rat proof, and save the farmer two or three days work in banking his house every fall, and removing it again in the spring. If possible, have windows on opposite sides on the cellar, to secure thorough ventilation. Some spread a coat of mortar on the wall before laying on the sills; but as the sills are liable to be affected with dry rot if put on in this way, I would advise leaving the sill so the air can circulate under it; and to make it tight lay a course or two of brick on the inside, close to the sill, which will exclude all air.

A farm house should be so arranged that all the work can be done on the first floor, and that should be on the same level, not having the kitchen two or three steps higher or lower than the rest of the rooms, as is

the case in many farm houses. Nothing is more fatiguing to a woman than to have to be continually going up and down stairs when doing the ordinary housework. The pantry should be so arranged as to open into the kitchen and dining room, thereby saving many steps, and it should be large enough to contain all the meal, flour, groceries, &c., used in the family; then the housekeeper has everything right where she wants to use it, instead of having to go up stairs, or to some outbuilding for flour and meal, as is too often the case.


By no means neglect to build a cistern when building your house, for if it is not done then the chances are that it will never be done; and the housekeeper in a farm house without rainwater is to be pitied for the reason that farmers, from the nature of their occupation, soil their clothes more than

people in other business, and rainwater is worth double, to wash such clothes in, than that of hard spring or well water. If possible make the kitchen the pleasantest room in the house, for it is here that farmers' wives spend the most of their time; the time spent in the parlor not being more than a dozen afternoons in a year, as a general thing.

Sleeping apartments should be large and well ventilated, and the chamber should be done off into three or four good sized rooms, instead of six or eight, seven by nine bedrooms, as is frequently done. Use good materials, employ good workmen, and insist on their doing good work, and if no accident befalls it, you will always have a good house, and one not needing repairs every year, only requiring an occasional coat of paint to preserve it from decay, and retain the appearance of a new house.

HORTICULTURAL DEPARTMENT.

HOW TO WATER PLANTS IN POTS.

UMEROUS are the enquiries as to the time and frequency of supplying greenhouse and other indoor plants with water—their most important want. The curious part of the matter is that people—almost in the same words—seem to take it for granted that it should be done at stated hours and intervals, as if, in this variable climate, it was an easy matter to cultivate tender plants in a highly artificial state as to appoint the hours for relieving a sentry guard. It is an important subject for every cultivator of tender plants, and should be understood by all such. Those who water their plants at regular intervals and give each about the same quantity of water—as is often done, even by professional gardeners who do know their business—are pretty sure to kill some of the most valuable and delicate, as in a conservatory or other house full of plants there is scarcely one but will differ from its neighbour in the amount of water it requires at this season, even if the plants are all of the same species. In a mixed collection the difference in the amount of moisture to be supplied is very considerable. Succulent plants—Aloes, Yuccas, Cacti, Mesembryanths, and such fat-leaved subjects—require little or no water from the beginning of November to the end of February; at least, such is the rule among good cultivators, though we believe it is not wise to apply it rigidly

to some of these plants, which are apt to shrivel and get hurt if allowed to become dusty and dry.

Geraniums, again, though they must not get quite dry, require to be kept comparatively so in winter till their flower buds are formed. We now allude to show or greenhouse geraniums. Fuschias are usually kept quite dry during the winter. Plants in a vigorous growing state, or coming into flower, as some are at all seasons, will of course require to be well supplied with water; they require to be as moist at the root as we keep growing plants in summer, only that one-third the amount of water and watering which would be required in summer will suffice to keep them so at this season. It is impossible to lay down a rule which would be of the slightest use as to the time of watering, &c.; it must be left to the cultivator's judgment. So frequent were the bad results of promiscuous and regular watering in the generality of gardens fifteen or eighteen years ago that an outcry was raised about over-watering, &c., which certainly made no inconsiderable improvement, but was also productive of much evil by making people err in the other direction—by not giving enough of water; and we certainly have seen more plants killed and injured of late years from want of water than from an excess of it. In one particular instance a splendid and very valuable collection of specimen Camellias was ruined, from being kept too dry in a

very cool house, the cultivator thinking they should be kept dry because the house was colder than such usually are. The treatment might not have had a bad result with many plants, but it killed the Camellias. A healthy-growing plant in a pot, which is, as it ought to be, thoroughly well drained, cannot well have too much water when it is watered. Our golden rule is: *Do not water a plant till it requires it, and then give a thorough soaking.* We are now dealing chiefly with greenhouse and conservatory plants, about which most enquiries have been made; but the rule is equally good for stove and pot plants in every structure. In hot summer weather, plants should be examined every morning, and in most cases watered; and in the case of free-growing Fuschias and other soft-growing plants in the height of their bloom, it may sometimes be necessary to water well twice a day. In the dead of winter, every second day is sufficiently often to look over greenhouse plants, and then not one in ten may require watering. The waterer should begin regularly at a certain place in the house, and examine every plant. After a little practice, he can readily detect those that are dry by merely looking at the soil; but in some cases, where the specimens have been top-dressed, &c., and soil without roots in it lying on top of that full of roots, and where bad watering has been practiced, so that the earth is wet on top and dry at bottom, it may be necessary to strike the pot with the knuckles to see if it sounds hollow, this indicating want of water; and now and then to turn a specimen out of its pot to examine the state of the roots. When a crack is seen between the soil and pot, caused by the shrinking of the soil, it is an almost invariable sign that the plant wants plenty of water.

When the operator meets with a dry plant, instead of pouring a little water on, as many do, he should fill it up quite, and if there is not a good space for water between soil and top of rim, he should return to it and fill up again, so as to insure a thorough soaking, for a plant wet at the surface, and dry as dust down where its main roots exist, is in the worst possible condition. In fact, it is not a bad plan to make it a rule to water gross-feeding and large specimens twice when they get dry. The great harm used to be in old times (and very often, we fear, in those advanced days) by pouring on a little sip every morning, which resulted in the pots becom-

ing covered with green slime, and the soil often a mass of black mud. The same regular examination should occur in summer, only less care will be required, and four times the amount of water. When rapid growth begins in the first bright days of March, too, the plants must be looked over every morning, and from that time to the end of October. Some people fill the pots with too much soil, and do not leave sufficient space for a proper dose of water to be poured on; it is a very bad plan, and has caused the death of hundreds of valuable plants. As a rule, the pot should not be filled higher than within half an inch of the brim. When settled down there will then be sufficient room for water, and sufficient opportunity to give a good drink at once—not watering again till the plant really wants it. One good watering in mid-winter will often suffice a healthy specimen plant in full leaf for two or three weeks; ten weeks later it may require one every day.—*The Field.*

CROPS AMONG FRUIT TREES.

The great importance of keeping fruit orchards in cultivated crops for the first ten or fifteen years is not generally understood. You may take two tracts of land of equal fertility and set them to fruit. The one shall be kept in plowed crops constantly for twelve years, and the other shall be kept the first three in plowed crops, and the next three in grass, and so alternated for the twelve years. At the end of that time, all other things being equal, the tract that has been kept constantly in plowed crops will contain trees twice the size and vigor of the other; and if you should commence with putting your orchard to grass for the first three years, the result would be that you would dwarf and stunt your trees so as to make them about worthless. If any person doubts this, I should be happy to give him illustrations of the truth of it, that I think would satisfy him.

GRAPE-GROWING.




WITH all our experimenting, and after all our discussions on the subject of grape-growing, we have not advanced much in the way of practical knowledge. Scarcely two growers agree upon any one particular mode.

They not only do not agree, but many of them differ radically.

We are pretty clear on one point, as we have often urged it before, that like many other fruits, especially pears, apples, &c., most of the several varieties of grapes are adapted to different regions and soils. It has always been known to be so in the grape-growing sections of Europe. It is a well-ascertained fact that the choicer wines made there come from certain limited localities, and those grapes invariably deteriorate if transplanted to other localities. There is hardly a doubt that this change is effected through the influence of the soil, and probably to some extent also by an altered exposure and temperature. It is the same case here.

While some varieties of our grapes require a light porous soil where the roots run very shallow, others do better in a heavy clay, where the roots penetrate several feet. What we now need is not so much wordy controversy, from which we learn so little, but an intelligent, classification of the grape with the soil, &c. Surely our extensive, sensible fruit-growers ought by this time to have arrived at something definite upon this really important point; at least until they shall all our efforts to produce choice wines from our native grapes will be a mere groping in the dark.—*Germantown Telegraph*.

PUTTING DRAINAGE INTO FLOWER-POTS.

N one of our earliest numbers, Mr. Peter Henderson assumed the position, unqualifiably, that crocking pots is unnecessary. From time to time statements and counter-statements have been made, and the matter continues unsettled. It seems very easy to decide this question,—but first let us see if the champions of the different practices are not more nearly on the same platform than they suppose they are.

We know why plants want water,—all the nutriment a plant receives is taken into its system with the water it absorbs. A continuous current of moisture about the roots is therefore essential to all but swamp plants.

If we take two pots, one containing earth only, the other having a plant growing healthily in it; give to each exactly the same quantity of water, and set both in an exposed place; the one with the plant is dry long before the other. The most of the water goes not through the hole at the bottom, or through the porous sides of the pot, but through the thousand of little spongioles up into the leaves where it is evapo-

rated, leaving only the solid matters it took up with it. The oftener such a plant dries, and can again get its water renewed, the oftener in fact is it taking its food, and getting fat, according to good philosophy.

A plant, therefore, that is so full of roots as to be able to suck up easily all the water given to it, needs no "crocking,"—but until it gets to this full rooted condition, the rapid transition or circulation of moisture through the soil must be accelerated by artificial means, or the plant will *starve*.

In very small pots on a dry shelf, although the plants may not fill the pots with roots and so suck up the moisture to any great extent, very much will go through the pores of the pot, and in such cases drainage will be unnecessary.

In short, and to crowd the argument into as few words as possible, plants in pots, to keep healthy, must have the soil about their roots regularly moist and dry by turns,—when this can be accomplished without "crocking," this drainage will be unnecessary,—when there is danger that this will not freely ensue, plants should certainly be drained in order to assist the process.

Our friend, in a recent paper, has a pleasant allusion to an old foggy who always planted a grain of wheat or oats with the seed in his pot.

We think we have met that old fellow in our time, and have had our laugh at him also,—but we have lived to learn that he had a good ground for his practice, though the reason for it was no doubt unknown to him. And the reason is this:

There is no "medicinal" virtues in a grain of wheat—but it is of a coarse, strong nature, and a sour soil will not easily kill it. It sprouts immediately it gets in the ground, and its roots, ramifying in all directions, suck up all the superfluous moisture in the pot that otherwise would stagnate, sour the soil, and rot the roots of more delicate and slow rooting things.

Most of us know that when we get any choice seeds, we generally take especial pains with them by careful watering and zealous guarding of the young seedling plants from the intrusion of the minutest weed,—and yet in the majority of cases more "damp off" under this cautious policy than when they are entirely neglected,—and it has come to be a rule with gardeners, that to raise seed successfully in pots, more attention should be given to the matter of watering than to any other process of the art whatever.

Now when seeds are somewhat neglected, weeds spring up and the coarser roots of the weeds taking up the superfluous water keeps the soil from souring.

We gave, last year, the result of an experiment a friend made with egg-plants.

One half the bed he hoed and kept clean from the start,—the other was left weedy for a long time, until the egg-plants had a fair hold of the ground. They were then cleaned and the crop was *earlier, larger and finer* than those particularly cared for.

We know that all such accounts excite the ire of the clean and careful cultivator. He is so embittered against weeds that he will not see in them any *uses*, only their abuses; and the philosophy of the past so impregnates his bones that he feels a sort of mental rheumatism whenever any new idea is propounded of a progressive kind. When he reads our remarks that even weeds have a beneficial effect in guarding the roots of more tender things,—we have no doubt he will imagine we are praising the management of that gardener.

“Whose days were all spent in yawning or slumber, While his garden bore thistles and weeds without number.”

And indeed there is no doubt many a lazy laborer might take advantage of the idea, and excuse himself for neglecting crops on the plea that “here the *Gardener’s Monthly* says weeds are good things to have in a garden.”

However, we are dealing with facts, and have to risk prejudice in our statements of them,—and we have no doubt from our own observations, that the grain-of-wheat man, and the weed-among-the-egg-plant, man have more of common sense in their practice than many of us, with old fashioned notions of propriety, are prepared to give them credit for.

All this has a close connection with this subject of draining pots,—and it all amounts to this, that the fibres of plants must be kept in a condition to have repeated changes of water,—when this can be done without “croaking,” that process is unnecessary,—when it cannot or is not likely to be, croaking should be done.

BEST SOIL FOR GRAPES.—A loamy clay soil, in a limestone section of the country, produces the best grapes for wine, according to the experience of the best Ohio grape growers. Where the soil is low and flat under-draining is necessary. Hill-sides, or gentle slopes, are often selected for grape culture, on account of the dryness of the

soil. We should not be deterred, however, from planting a vineyard in any good, fertile soil, notwithstanding that we believe a loamy soil, in a limestone country, the best.

STRAWBERRY CULTURE AT WALLINGFORD, CONN.

THE Wallingford Community cultivates strawberries with great skill, and their reports are of interest to fruit growers. Here is their report for 1866 :

It is pleasant business to tell of great crops; and in making out our annual strawberry statement last year, we enjoyed that pleasure. We do not find exactly the same satisfaction in presenting this year’s report, because the crop is so much poorer. Still, as it is our purpose to give as complete a showing of the business as possible, it is perhaps better to have a very poor season succeed a very good one, as in the case of the two past years.

The amount of land in strawberries, the present season, was eight acres and thirty-four rods, of which four acres and thirty-four rods were new beds that had been set the previous season, and yielded their first crop this year. The remaining four acres were old beds that had yielded one crop already. The cost of cultivation was as follows :

THE CROP.	Dr.
To 41 days’ team work and cultivating.....	\$110 50
559½ days’ men’s work, at \$1.50 per day.....	689 62
159 loads of manure, at \$2 per load.....	318 00
37 bushels of bone-dust.....	37 00
Fish guano.....	5 00
17 tons of mulching, at \$8 per ton.....	136 00
Interest and taxes on land.....	57 49

Total cost of cultivation.....\$1353 61

The expenses of harvesting and marketing the fruit were as follows :

THE CROP.	Dr.
Cost of picking.....	\$305 97
Labor of overseeing and marketing.....	132 00
Freight, travelling and telegrams.....	243 71
Commissions.....	171 17
Team-work.....	50 00
Wear of boxes, crates, &c.....	50 00

Total for harvesting and marketing\$952 85.
The returns to be credited are as follows :

THE CROP.	Dr.
By 12,165 quarts of fruit, at an average value of 37½ cts. per quart.....	\$4561 87
Plants sold.....	134 95

Total value of crop.....\$4966 82
Deduct the total cost of the same 2306 46

Balance of profit.....\$2390 36

The above account is that of the whole crop as determined by the pickers' tally-book, at its market value, and supposing it all to have been sold. But some margin must be allowed in such a crop as this for waste and shrinkage, as well as for a liberal provision for family use and for canning. Taking our bookkeeper's account of actual returns for sales, we have

Cash receipts for the crop.....	\$4246 72
Cost of the same.....	2306 46

Balance of profit.....	\$1940 26
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which is at the rate of \$236.25 per acre, or somewhat less than half that which was obtained last year. The yield per acre last year was 156 bush. 21 qts., while in the present season the average per acre was only 46 bush. 10 qts. The deficit in production was partly made up, however, by the increased market price of fruit, which reached at one time 75 cts. per quart.

The reasons for the comparative failure of the crop were probably owing to an unfavorable winter, for which our management of the plants was not exactly adapted, and the sharp frosts which occurred on the 22d and 23d of May.

Of the comparative merits of different kinds of berries, we have but little new to say. It has been a bad year to test new kinds. The Wilson still maintains its character as the most profitable market berry. —The *Triomphe de Grand* fell very far behind the Wilson in productiveness and profit this year, notwithstanding it brings a greater price in the market by 10 cts. per quart. The *Tribune* strawberries Nos. 1 and 3, after two years trial with our cultivation, do not recommend themselves as market berries, but appear to be what might be called good amateur kinds for gardens. The *Tribune* No. 2 we have not tested. The Russell has had a fairer test this year with us than ever before, and we can say of it that it is an excellent producer, though not equal to the Wilson. It does not bear carriage so well as the Wilson. It grows much larger, however, and to our taste has a better flavor. We are disposed to keep it to use principally for home consumption.

A few *Agriculturist* plants that we allowed to bear yielded us a few large, fair, deep-colored, solid and fine-flavored berries. We shall look forward with interest to what this plant will do in a more favorable season.

H. J. S.

TRAINING TREES.



WHILE we do not advise the commercial fruit grower to expend time in giving variety of form to his fruit trees by other than the best practical use of the knife, yet we do like occasionally to see diversity of form produced by artificial methods, exhibiting skill and control of plant life in grounds of amateurs. Trees in fan shape, bordering walks, with spreading flat tops, almost umbrella form, on lawns, or some points or places where space is a part of the scenery, and elevation not admissible. This month is a good time to train and tie the branches, just before or about the time of forming the terminal buds. Many sorts of trees, those especially of a straggling habit of growth, can be not only improved in forms, but their bearing surfaces often enlarged and increased or improved in character.

Gardeners and amateurs can often, with a little labor and care, give additional interest and diversity to a small extent of grounds by attention to the item of fancy form in training trees.

CLAIR HOUSE VINEYARDS, COOKSVILLE.



RESULTS that cannot fail to exercise an important influence on the horticulture and trade of this Province, have been already secured by the comparatively recent experiments in vine-growing and wine-making which have been made by Mr. De Courtenay of Cooksville. The success that has marked the history of this vineyard for the past three years demonstrates that grapes, well suited for table use, and for the manufacture of wine, take kindly to our climate, and withstand the inclemency of our winters without any protection whatever.

Did space permit we would gladly enter into some details of the growth of this important undertaking. Like every other innovating enterprise of a useful character, the Vine-growers' Association has had many difficulties to encounter. We believe, that the history of the movement will shortly be issued in pamphlet form when we may notice it more in detail, at present we will address ourselves more particularly to the system of culture pursued with the vine at Cooksville.

Mr. De Courtenay rightly regards the essential condition of successful culture to consist in a proper system of planting and

pruning. The vigour of the vine varies with the climate, and consequently in warmer latitudes the plants require a larger amount of feeding-ground so to speak than they do in colder regions. In this province, a suitable distance between vines is four yards apart each way. This affords an area of sixteen square yards to each plant planted thus, an area contains somewhat over three hundred vines, and yields from fifteen to twenty-five tons of grapes. Some of our readers, who have not inspected the Clair House Vineyards for themselves, may regard this statement as an exaggeration. A visit to the establishment will effectually dispel any such doubt, and will most probably enlist such visitors among the believers in the movement, if not among the shareholders in the concern. As regards pruning, no satisfactory description of the process can be given in writing. It must be seen and studied to be understood. The method of propagation pursued is by planting cuttings at the time of pruning in spring. The soil being thoroughly pulverized, and a little bone manure added, three cuttings each of about a yard in length are planted together—the distance preserved between each three being, as already intimated, four yards. We carefully inspected a large area planted last season, and satisfied ourselves that of the cuttings so planted, at least two-thirds thrive and do well. The young vines come into bearing the third year. The fruit is, however, invariably removed from them that year before it ripens, in order that it may not unnecessarily exhaust the plant. It is a well established fact in plant physiology, that the chief exhaustion of the vine and other fruit yielding plants and trees, occurs from the time when the seed begins to form until it ripens. Removing the fruit before it matures has another beneficial effect, inasmuch as it permits the plant to divert its resources of sap to the better ripening and hardening of its wood. It will readily be understood, that in a rigorous winter climate like ours this is an important desideratum. The young vine, in the fourth year of its life, presents the appearance shown in accompanying illustration. The dimensions of the row so admirably depicted by our artist, are as follows:—Twenty-four feet in width; six feet in height; distance between the plants six feet; space between the row shown and the next six feet. The outer row shown on each side of the engraving, forms one side of an avenue similar to that

fully represented by our artist. As will be observed the vines are trained on simply constructed rustic trellises. In fastening these structures together, as well as in securing the vines to them, no other material is used but shoots of the osier willow.

As already stated, the vines are pruned in the spring; and, with the exception of keeping the stems of the plants for about a yard high from the ground, carefully divided by shoots and leaves, not a tendril or a leaf is disturbed till the ensuing year. By thus preserving what have been well designated “the lungs of the plants” uninjured, the fruit produced is of the finest possible description. The important object of having all the fruit in the vineyard ripen simultaneously, is also fully secured, a matter of no small consequence where grapes are grown for wine making purposes.

The Clair House Vineyards comprise 170 acres of land, of which forty are already planted with grape vines, more than half of which are in full bearing. The example thus set has not been lost upon residents in the neighborhood, by whom considerable tracts have been planted with cuttings gratuitously furnished by Mr. De Courtenay. Why should not every farm and garden in the land be decorated with a grape walk similar to that shown in the above engravings?

ON THE SELECTION OF FLOWERS.

WE frequently meet with amateurs who feel disappointed with flowers, which they had carefully selected from numerous varieties they had heard highly extolled for unsurpassing excellence; and thus they felt discouraged in adding to the further embellishment of their flower-garden greenhouse, or conservatory. Without detracting from the properties of flowers, as described by Glenny, attention to which has given such an impetus to floriculture in the perfection of form and substance, among flowers that are at present so much prized, our remarks have reference to colours simply when properly arranged, not as we find them presented before us, passing as current coin throughout the modern practice of flower gardening, where colours, being displayed in groups, or arranged in the form of ribbon borders, combine in one view, as an effort to produce harmonious effect.

Colours may be considered harmonizing as they pass from deep pink to blush, as observed among various roses, or from buff to fawn, as among the hollyhocks. Colours

of equal depth of shade are met with as variegated foliage; and in the flowers of the *Lilium auratum*, of recent introduction. Colours may be considered contrasting and complementary, such as purple and gold, red and green, &c, which leaves no room for the exercise of taste, the presence of the one determining that of the other. Colours that are simply contrasting present a wider range for the exercise of taste which it would be arbitrary to define and enforce by minor details. If practical men thus prefer to group and arrange their plants upon some understood principals, we simply contend for the same liberty in selecting individual plants for individual effect as specimens for the greenhouse or conservatory. If we take up the cinerarias, for example, as being in flower at this season, although our remarks refer with equal force to the varieties of other species, this favourite flower—and a very beautiful flower it is when well-selected and well-grown—we cannot fail to admire the dark disc or centre as a rule of excellence when surrounded by white or light-coloured petals, presenting

by such a contrast a very striking flower among many other varieties. However, we find the colours of the petals darker round this dark centre, until the effect of the disc is lost in a dark self. When this dark rule of excellence is virtually extinguished, we are thus at a loss to know why light-coloured discs are not as necessary to contrast dark-coloured petals, as discs are a necessity, not only for light but also for dark petals. If contrast is necessary for one why is it considered unnecessary for the other? We have been forcibly struck with the appearance of a seedling, raised in this neighbourhood, of a free growing habit, with bright magenta petals surrounding a golden yellow disc or centre, which according to opinions held by professional judges, would be consigned to the limbo of oblivion for daring to appear before them without a black eye or disc; when by persons of ordinary taste, unlearned in the dogmas of the school, it is much admired in its fashionable dress of gold and magenta, as contrasting colours, being a step in the right direction.—*C. Howie, Fife, in the Farmer.*

DOMESTIC ECONOMY.

DRESSING POULTRY FOR MARKET.

POULTRY venders in our large cities are constantly urging country producers to dress their poultry in the best manner, as that properly dressed commands several cents per pound more than that which is poorly dressed. The following directions are from an experienced source:

1st. Food in the crop injures the appearance and sale; therefore keep from food twenty-four hours before killing.

2nd. Opening the veins in the neck is the best mode of killing. If the head be taken off at first, the skin will recede from the neck bone, presenting a repulsive spectacle.

3rd. Most of the poultry in market is "scalded," or "wet picked;" a "dry picked" is preferred by a few, and sells, to a limited extent only, at full prices.—Poultry may be picked dry, without difficulty, if done without delay after killing. For scalding poultry the water should be as near to the boiling point as possible, without actually boiling. The bird, held by the legs, should be immersed and lifted up and down in the water three times. Continue to hold the bird by the legs with one hand while

plucking the feathers with the other, without a moment's delay after taking out. If skillfully handled in this way, the feathers and pin-feathers may all be removed without breaking the skin. A torn or broken skin greatly injures the appearance.

4th. The intestines should not be "drawn." After removing the feathers, the head may be taken off and the skin drawn over the neck bone and tied. This is the last method, though much comes to the market with the head on.

5th. It should next be "plunged," by being dipped about two seconds into water nearly, or quite boiling hot, and then at once into cold water the same length of time. It should be entirely cold, but not frozen, before being packed.

6th. In packing, use clean hand-thrashed rye straw. If this cannot be had, wheat or oat straw will answer, but be sure that it is clean and free from dust. Place a layer of straw at the bottom, then alternate layers of poultry and straw, taking care to stow snugly, back upwards, legs under the body, filling vacancies with straw, and filling the package so that the cover will drive down very closely upon the contents, to prevent shifting on the way. Boxes

are the best packages, and should contain from 150 to 300 pounds.

THE LADY'S FRIEND FOR OCTOBER.

THE October number of this charming periodical, opens with a beautiful and suggestive engraving, illustrative of the interesting story of "Hugh Maxwell's Heir." The double colored steel Fashion Plate is as elegant and refined as usual. The other illustrations refer to the Fashions, and lady's work, such as the Work Basket with Pockets, Dress with High Waist and Removable Basque, Canezou of Tulle and Lace, Riding Habits, Siamois Bonnet, Trianon Bonnet, &c., &c. The Music is the "Queen of Summer." Among the literary contents we notice "Second Love," by Mrs. Hosmer; "The Magic of the Sunbeam;" "The Story of a Proud Heart," by Gabrielle Lee; "The Bachelor Answered," by Mattie Dyer Britts; "The Disputed Patrimony," by Auber Forestier; "Winter Time," by Florence Percy, author of "Rock Me To Sleep;" Editorials, Receipts, Fashionable Intelligence, &c.

Price \$2.50 a year; 2 copies \$4.00; 8 copies (and one gratis) \$16. Specimen numbers will be sent for 15 cents.

Address Deacon & Peterson, 319 Walnut Street, Philadelphia.

THE TOMATO AS FOOD.



GOOD medical authority ascribes to the tomato the following very important medical qualities:

- 1st. That the tomato is one of the most powerful aperients of the liver and other organs; where calomel is indicated, it is one of the most effective and least harmful medical agents known to the profession.
- 2nd. That a chemical extract will be obtained from it that will supersede the use of calomel in the use of disease.
- 3rd. That he has successfully treated diarrhea with this article alone.
- 4th. That when used as an article of diet, it is almost sovereign for dyspepsia and indigestion.
- 5th. That it should be constantly used for daily food. Either cooked or raw, or in the form of catsup.

COMMERCIAL REVIEW.

THE HARVEST OF 1866.



THE date has arrived at which definite and positive opinions may be ventured in regard to this year's yield of farm products, and accordingly we find in most of our exchanges throughout the province, more or less copious harvest reports. To insert all the extracts we have culled and clipped would occupy too much space, and we can but endeavour to give the spirit of the press in a brief editorial of our own. Indeed to copy the reports in question would be to a great extent, to say the same thing over and over again, for there is a marked similarity about the most of them. Happily, this accord is to the effect, that we are gathering in one of the most bountiful harvests ever vouchsafed by Providence to this or any other country. One of our cotemporaries, the *Perth British Standard*, reports "an extensive harvest, which is all said to be as large as those of the previous four years combined." Another, at the opposite end of the province, the *Huntingdon Journal*, reports "a yield of the staple crops of surpassing excellence and abundance," and adds:—"Agricul-

turists have unbounded cause of thankfulness, and little to deplore in the order of nature the present season." The *Guelph Mercury* says of the counties of Grey, Bruce, and Perth, that "the yield of this year will exceed anything known in Canada for the past fifteen years." The *Chatham Banner* says: "The harvest in this county is nearly finished, and so far as we have been able to learn, the yield exceeds anything we have had for eight or nine years past." The journal just named adds: "A very good idea of the extraordinary prosperity enjoyed by the farmers of this county may be formed from the fact, that between 140 and 150 reaping and mowing machines have been sold here this year." Our exchanges do not all paint the state of things in colours of such glowing hue, as do the journals we have named, but there is a general and pleasing agreement as to the satisfactory character of the harvest of 1866.

Of course there are exceptional cases. In some localities fall wheat was badly winter-killed, and in others both fall and spring wheat have suffered from the midge; but the fears that were entertained in the early


spring as to the general failure of the fall wheat crop have not been justified by the result. In some parts where it was considered to be hopelessly winter-killed, it recovered wonderfully, and has turned out beyond all expectation. The *Mitchell Advocate* reports "a good yield of fall wheat, both in quantity and quality. One or two farmers have forty and even over forty bushels to the acre." In the newer counties we believe the fall wheat is almost without exception good, while in the older counties, there is more or less complaint of it, but the yield of spring wheat and other crops goes very far toward compensating for the deficiency. One of our exchanges gives a doleful recital as to "the severity of the winter, the midge, the rain, and now the grasshoppers." These we are told have "vented their spleen on the products of the husbandman, and have certainly diminished the yield to a great extent." We do not name the last quoted journal, for inasmuch as another newspaper account of the crops in the region referred to is of a very different character, we incline to the hope that the melancholy report was written under one of those attacks of the blues, to which Editors as well as other people are now and then subject. In several localities there has been very catching weather, and some instances of injury to out-lying crops are reported by our exchanges. The weather has, however, been cool during the prevalence of wet, and in consequence we hear of but little rust and no growing. Very favourable reports are given as to the flax crop, which is turning out well both as to seed and fibre. The *Woodstock Times* states that "one gentleman in that neighbourhood, Mr. J. H. Brown, has about one thousand acres of flax, Mr. Cottle has upwards of one hundred and ten, and Mr. Josiah Campbell of North Norwich has one hundred and twenty acres of flax under cultivation. At the lowest calculation, the seed from this crop will produce \$20 per acre, and the fibre \$30, making a total per acre of \$50,—or on the whole, \$61,500." We can only hope that these figures may be reached, though with all our faith in the remunerativeness of flax, we think the estimate too high.

As to the root crops, potatoes promise to be a splendid yield. We hear accounts of rot in some quarters. Turnips will be a light crop, and in some localities, all but a failure. For some cause or other, the past summer does not appear to have been very


favourable to the growth of this root. Carrots and mangolds are well reported of.

We have observed but little information as to the fruit yield the present season. The small fruits have done well with the exception of strawberries, which turned out but poorly. Our impression is that there will be an average supply of apples, and but a meagre yield of plums. Grapes, of which a considerable number are now planted in various parts of the province, promise a large yield, unless they should be nipped by untimely frosts.

HIGH PRICE OF COTSWOLD RAMS.

 E learn from *Bell's Messenger* that "recently, 54 sheep of the Cotswold breed were sold by Messrs. Lyne and Son, for Mr. W. Lane, at Broadfield, and realized the extraordinary average of £26 18s. 9d. each. Four of the sheep sold for upwards of £100, each, namely, one purchased by Mr. John King Tombs, 110 guineas; another, by Mr. Fletchar, 122 guineas; a third, by Mr. Porter, 126 guineas; and a fourth, by Mr. R. Garne, at 100 guineas. Again at Aldsworth, on the following day (by the same auctioneers), Mr. Brown of Norfolk gave 120 guineas for one sheep, and Mr. Charles Barton 70 guineas for another;

EXTENSIVE BLOOD STOCK SALE ON AUSTRALIA.

 E learn from a British exchange that "wonderful sale of racing stock is reported to have taken place in Australia, which throws even Mr. Blenkiron's last and greatest success into the shade. Some years since, Mr. Hurtle Fisher, who lives near Melbourne, at Maribyrnong, imported from this country a number of our best horses and mares; among them Mr. Parry's Fisherman and Mr. Hawke's Marchioness. On the 10th of last April the Maribyrnong stud was sold by auction. Forty-three horses, of which nine were yearling colts and eight unweaned filly foals, fetched £26,306, rather more than £600 each. The nine yearlings fetched 5055 guineas—502 guineas each; 11 horses and mares in training 11,540 guineas—2049 each; 14 brood mares, 7080 guineas—506 guineas each; and eight unweaned fillies, 2110 guineas—263 guineas each. A four-year old colt by Fisherman — Marchioness fetched 3600 guineas. In spite of the horrors of democracy, Australia cannot be such a bad place after all."