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FREE BY LAW.

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, Glouçestershire, England,
and of the Imperial Agricultural School of Grignon, Seine and Oise, France,
Member of the Imperial Zoological Society of Paris, &c.

SEPTEMBER, 1866.

SPARGERE COLLECTA.

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

MONTREAL.

Official Dep'nt.

BOARD OF AGRICULTURE FOR LOWER CANADA.

MONTREAL, August 24.

Present:—Messrs. Archambault, Beaubien, Campbell, Pilote, and Taché.

THE President in the chair. The Secretary read an official letter from the Minister of Agriculture, informing the Board that a sum of $2000 has been put at its credit, to make a collection of grains and agricultural productions for the Paris exhibition.

The County of Iberville Agricultural Society's difficulty being again submitted to the Board, it was

Resolved,—That the Board having, in this difficulty, to judge but one point, viz.: Who were the persons, who, representing the corporation of the Iberville Society, had the right to superintend the meeting as well as the elections of the Society, must accept the report of the preceding office-holders, Messrs. F. V. Paulin, T. Meunier, Edouard Goyette, J. B. Bouchod, Julien Benoit, Demase Cavau, Alexis Artois, J. B. Houlé, Ambroise Caneau, and Didace Tassé, secretary.

Resolved,—That Messrs. Campbell and Pilote be appointed delegates of this Board to the Upper Canada Provincial Exhibition, which will take place at Toronto in September next, and in case these gentlemen could not attend, Messrs. Archambault and Beaubien be appointed in their place.

And the Board adjourned.

GEO. LECERE,
Secretary.

COUNTY OF OTTAWA AGRICULTURAL SOCIETY, No. 2.

THE Annual Exhibition of this Society will be held in the village of Thurso, C.E., on Thursday, the 27th day of September next, at 10 o'clock.

By Order,
ALBERT WATERS, *Sec. Treas.*
Thurso, 18th August, 1866.

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, ROB. TRUDEL, Sec.
St. Geneviève de Batiscan August 25, 1866.

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. JUDGSON, *Sec.*
Clarendon, August 1st, 1866.

L'ASSOMPTION AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the Society will take place, Wednesday, the 3rd of 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 tenth October next, at ten o'clock.

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

COUNTY OF ARGENTEUIL AGRICULTURAL EXHIBITION.

THE Annual Exhibition of this Society will be held at the village of St. Andrew's on Thursday, the 27th day of September next, at ten o'clock a.m.

By order,
H. HOWARD, *Sect. Treas.*
St. Andrews, 23rd August, 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.

RIMOUSKI AGRICULTURAL EXHIBITION.

THE Annual Exhibition of the county of Rimouski, will take place at St. Luc, the thirteenth of September next.

By Order, ED. POULIOT, *Sec.*
Rimouski, August 7, 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.

EXHIBITION OF THE COUNTY OF TEMISCOUATA.

THE Annual Exhibition of the county will take place at St. Eloi, the twenty-seventh of September next, at ten o'clock.

By order,
L. N. GANVEAU, Sec.

Isle Verte, Aug, 25, 1866.

BEAUHARNOIS AGRICULTURAL EXHIBITION.

THE Annual Exhibition will take place at St Louis de Gonzague, Thursday, the twenty-seventh day of September next, at ten o'clock.

By order,
H. BISON, Sec.

St. Louis de Gonzague, Aug. 25, 1866.

MONTREAL AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE twenty-first annual exhibition of the above Society will be held on Wednesday, Thursday and Friday, the 12th, 13th and 14th days of September next, in the Victoria Skating Rink, Drummond street, when prizes to a very large amount will be offered for flowers, fruit, vegetables, agricultural products, poultry, &c., open to all Canada.

Prize lists all other information may be had of, and entries made with the Secretary.

J. E. PELL,
91 St. Antoine street.

Montreal, August, 1866.

EDITORIAL DEPARTMENT.

THE TRIAL OF AGRICULTURAL MACHINERY AND IMPLEMENTS.

THIS trial which came off on the 21st August, on Sir Wm. Logan's farm, was a failure in every respect, and we know not what to report on the occasion. There was no competition, and the machinery put in motion was closely tested, no attention being paid to the result. It is to be regretted for many obvious reasons, and we will briefly record the fact without comments. We can only hope that the plowing match and trial of tilling implements may prove a greater success. Both will come off on the second day of October next, on Sir Wm. Logan's farm as will be seen in the official department of this month.

STATE FAIRS.

New York, Saratoga Springs, Sept. 11, 12, 13, 14.
New Hampshire, Manchester, Sept. 11, 12, 13, 14.
Ohio, Dayton Sept. 25, 26, 27, 28.
Illinois, Chicago, Sept. 25, 26, 27, 28.
Wisconsin, Janesville, Sept. 25, 26, 27, 28.
Wisconsin Agricultural and Mechanical Association Horse Fair, Milwaukee, Sept. 11, 12, 13.
Pennsylvania, Easton, Sept. 25, 26, 27, 28.
New England, Brattleboro, Sept. 4, 5, 6, 7.
Indiana, Indianapolis, Oct. 1, 2, 3, 4, 5.
Oregon, Salem, Oct. 17, 18, 19, 20.
Illinois Implement Trial, Mattoon, Sept. 4.
Kentucky, Paris, Oct. 2, 3. 5.
Minnesota, Rochester, Oct. 3, 4, 5.
Amer. Pom. Society St. Louis, Sept. 4.
National Horse Fair, Kalamazoo, Mich., Oct. 2–5.

THE NOVA SCOTIA GOVERNMENT STOCK FARM.

OUR readers are aware that during last session, the Legislature made provision for the establishment, by the Board of Agriculture, of a farm for the rearing of pure stock. Some time ago advertisements were inserted in the newspapers requesting offers of suitable farms. The number of farms offered was considerable. A deputation from the Board visited such of them as were likely to suit, and after full enquiry and consideration it was decided to purchase Mr. Snide's farm, which is conveniently situated at Shubenacadie, and is thus readily accessible by rail. The matter is thus referred to in the Halifax *Express:*

"We understand that the Hon. Mr. McFarlane, chairman of the Provincial Board of Agriculture, has purchased for the Province a farm at Shubernacadie, consisting of 350 acres, a hundred of which are under cultivation. This property, we learn, has been selected for a stock farm, and the Government intends taking possession of it at once. The necessary buildings for the housing of stock, &c., will be erected at once, and the farm stocked with the best description of cattle that can be obtained. This we consider a move in the right direction, and we have no doubt that a further improvement will be made to it, as there is sufficient land, a model farm, an institution that is very much required in this Province, and a project recommended in this paper a few months ago. The price paid for the farm is, we understand, $7,000."

RULES FOR PLOUGHING MATCH.

THE following rules for a Canadian Ploughing Match we reprint for the guidance of Societies that may be arranging similar matches this season :—

1. Each ploughman competing must be a member of the Association, and will not be required to pay any additional fee.

2. The match will take place on commencing at 11 a.m.

3. The fields selected for the match are on the farm of , and, if required, on the farm of , at

4. The quantity of ground to be ploughed by each man will be about *one-third* of an acre, and will consist of two crown ridges and two open furrows equal in all to two lands 7 yards each in width.

5. Each ploughman will be required to drive his horses.

6. No person will be allowed to assist the ploughman except in setting his poles. Ploughmen will not be allowed to touch their furrows with their hands.

7. The ploughing shall not be less than 6 inches deep, no false cutting will be allowed. Each ploughman may, subject to the above restriction, choose the dimensions of his own furrow slice, but must cut to an angle of not more than 90 degrees, and set to an angle of 45 degrees. Any ploughman cutting to a less angle must set to half the angle he cuts.

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

9. 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 further assistance shall forfeit all claims to a prize.

10. On proceeding to open his land, each ploughman shall commence at the stake corresponding to his number, and shall back his own furrow; he shall then open the centre and finish the white land on the right side before commencing on the left.

11. 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 acre in twelve hours.

12. 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 from the ground and report to the time-keeper.

13. 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 timekeeper shall furnish to them a list of the numbers of the various lots, with a statement of the time occupied in ploughing each lot.

14. All the land ploughed shall be judged.

15. No person will be allowed to interfere with the ploughman while at work.

16. The decision of the judges shall in all cases be final, if in accordance with the rules. The Board of Agriculture will only interfere in cases where appeals set forth that the judges have not given their decisions in accordance with the rules.

17. Boys under 18 years shall only be admitted to compete in the Boys' Class.

18. Persons intending to compete at the ploughing match shall make their entries on or before the 9th of September.

The Judges are requested to attend promptly at the Secretary's office on the Exhibition grounds, at 9 a.m. on the day of ploughing.

THE STREETSVILLE FLAX WORKS.

EVERYTHING connected with the progress of the flax industry in this country, will be regarded with interest by all who can lay just claim to the possession of patriotic feeling, and we are sure that all such will gaze with pride and pleasure at the engraving which accompanies this article. It is a faithful picture, drawn by our own artist on the spot, of the Linen Mill recently put into operation by the Streetsville Linen Manufacturing Company. This Company was formed by the junction of two enterprising and well-known firms, Messrs. Gooderham & Worts of Toronto, and W. D. Perine, Brothers of Doon, and other places westward. Though the building which forms the chief object in our engraving presents a most imposing appearance, the principal outlay of capital has been for what is out of sight, viz: the elaborate and costly machinery, with which the interior of the Mill is fitted up. Some idea of the magnitude and importance of this enterprise will be formed when we state that already

no less than $100,000 have been invested in it. The Flax Works consist of a Scotch Mill, on the opposite side of the river from the building which figures so conspicuously in our engraving; connected with which are out-door vats with capacity for retting 25 tons of flax at once; the Linen Mill, consisting of a main building 50x75 feet, and a wing 40x60 feet, both being five stories high; a separate brick building for generating the steam with which the establishment is heated in winter; a rope walk and some smaller offices. From 70 to 100 hands are ordinarily employed about the works, but in spreading time a much larger number is required. All the processes of flax dressing are carried on from the retting of the straw to the preparation of the finest description of fibre. Certain articles of linen manufacture are also produced. About 900 tons of flax were obtained last winter in the immediate vicinity of the mill. Most of this was bought with the seed on, at $14 per ton. The crop last season was not a very even one as to amount of yield, varying from 1½ to 3¼ tons per acre. In the farming county round Elora, Maryborough, and Peel, the usual average is about 3 tons per acre. Scutching was commenced at these works in November last, and the linen manufacture in March. The quantity of flax obtained in the neighbourhood is only about one-fourth of what is required to carry on the mill. There is, therefore, pretty wide scope yet for increasing the acreage of flax in the adjacent county. The additional material required at the mill has thus far been obtained from Perine Brothers in the shape of "long-line fibre" as it is called.

A brief account of the operations carried on at these works will doubtless interest our readers. First, there is the retting process, which in favourable weather takes from five to eight days. Next, the retted fibre is spread out to dry. This takes from three to ten days, according to the season and state of the weather. The dried fibre is then broken and scutched. For breaking, "Randall's Flax Break" is used, a simple machine in which the ordinary roller breaks are so adjusted as to do the work without risk of catching the hands of the attendants. Revolving scutch-knives are used, and moveable perpendicular boards, against which the bunches of flax are held while in contact with the knives. Next to the scutching comes the hackling,—a sort of combing process which separates all the refuse material and inferior fibre, leaving on an average about 50 or 60 per cent of long fibre. One hackler is constantly busy preparing "long-line flax." After it leaves his hands, it goes to the spreading machine, then it is subjected to the first and second drawing, next it passes through the roving-frame, then the spinning-frame, when its preparation as warp is completely finished. Tow of various grades is left after hackling. The best quality is first dusted in a kind of cylinder; then sorted; given to the picker, and from him to the lapper who laps it on to laps for the cards; next it goes through the carding-machine from which it passes to the drawing-frame which puts it into webs or belts; then it is passed to the speeder which lays it up and puts it on bobbins; next it goes to the spinning-frame, and from that to the quiller which to a number of quills, each of which in turn goes into a shuttle, is put into a loom, and wove. At present, the mill is engaged in weaving the double-webbed linen out of which seamless bags are made. Each of these is 1⅓ of a yard in length. The bags are cut off by machinery and hemmed with a sewing-machine after which they are pressed and baled, 100 being put in a bale. Three bales per day are turned out, or from 1800 to 2000 per week. Their wholesale price in the market, varies from $40 to $45 per bale. Counter-twine is also manufactured. This passes through all the stages that have been mentioned except weaving. Instead of being woven, it is formed into balls by a very ingenious piece of machinery invented for the purpose. Cordage is also made. This requires a good quality of tow. The poorer grades of tow are made into rope of various thicknesses. After passing through the processes already described, it is put through the spinning-jenny, the strand-former, and the laying machine. Afterwards, it is dressed on the rope-walk and coiled ready for the market. At present, only about 300 lbs. of rope per day is being turned out, but the mill has capacity for making from 600 to 700 lbs. The cordage manufacture is not yet fully under way. When everything is in complete operation, all the material yielded by the flax fibre will be worked up on the premises, except the refuse tow which is sold to the paper makers, and used by them in the manufacture of certain kinds of paper.

The weather of late has been all the most fault-finding could desire.

BONE DUST, SUPERPHOSPHATE AND CHEMICAL MANURE COMPANY IN HALIFAX.

AGRICULTURISTS throughout the Province will be happy to hear that a Joint Stock Company (limited), is being formed for the manufacture of bone dust and other artificial fertilizers, required for the successful cultivation of the soil. The capital stock of the company, amounting to $8000, consists of 80 shares of $100 each,—50 per cent. paid up. A reasonable annual return may be expected from the capital invested, and by careful management the stock may in time improve greatly in value as the demand for the manufactured articles increases and the works are extended. The following are among the gentlemen who have already taken stock, viz.:—Hon. Alex. Macfarlane, Hon. R. A. McHeffey, William Cunard, Esq., Joseph J. Northup, Esq., H. Yeomans, Esq., Hon. W. A. Henry, Hon. J. W. Ritchie.

The company is being organized under the sanction of the Central Board of Agriculture, and, so soon as 50 per cent. of the capital has been paid up, will be entitled to receive the bonus of $600 offered by the Board to encourage the erection of a bone mill in the Province.

When the requisite amount of capital has been subscribed, a meeting of the stockholders will be called for the purpose of organizing the company and appointing directors. A person of much experience in the management of such works is prepared to offer his services as manager.

NEW YORK STATE AGRICULTURAL FAIR.

THE next Annual Fair and Cattle Show of the New York State Agricultural Society will be held at Saratoga Springs, Sept. 11 to 14. The arrangements to this end were lately concluded. The exhibition will take place on the grounds of the County Agricultural Society, which are to be enlarged. They contain several buildings, and the local subscriptions are sufficient to supply the necessary additions, and to meet every want of the public. The distance from the hotel and railroad stations is about a mile. The place is readily accessible to all parts of the Commonwealth, to the West by way of Schenectady, to the South and East from Albany and Troy. No little credit is due to the citizens for the energy and determination which they have shown in the undertaking, and in selecting Hathorn, McMichael and Hall as their committee in charge, the Society has a full guarantee of the success of the coming meeting, in so far as it can be secured by the coöperation of the locality, says a contemporary.

SUGAR FROM THE BEET.

It appears by an Illinois paper on this subject, that the Sugar of the Beet Co. at Chatsworth have planted about 600 acres of land to beets. Machinery is arriving for manufacturing the sugar, which will be ready for operation the present season. The subject of making sugar from beets is one that has been much talked about for a long time, and the important query, "will it pay?" at the west, we judge, is likely soon to receive a solution.

AMERICAN SHEEP FOR PARIS.

The New-Hampshir- *Mirror & Farmer* of the 2d inst., says:

It is gratifying to learn that this country is to be strongly represented in the sheep Department of the next World's Fair to be held at Paris, commencing on the first of April, 1867. By a recent notice in the papers, it seems there are already entered with the agent at New York City, 75 rams and ewes for the exhibition, and as competitors for the awards offered. To Mr. Geo. Campbell of Vermont, belongs the credit of breaking the ice and opening the door in this direction, for his success at Hamburg shows conclusively that Americans have nothing to fear in a competition with Europeans for excellency of sheep husbandry.

PRACTICE vs. THEORY.

THERE is much stress laid upon the practical. "Be practical;" "Be more practical"—that is the expression. We hear the remark everywhere, and see it in the papers. But this is harping upon one string, and will not do.—Who are the practical—all the practical? The wretched farmers—the ignorant farmers—the sloven farmers: the farmers who don't succeed. These are the practical farmers—all practice. Get up higher, where the better farming is done—and what do you find here? A different state of things—speculation, plan, science, theory, the forerunner of all science and all the practical. Here, in the higher ranks of farming, people speculate upon theory, and test it by practice. It is the thinking man, the intelligent man, that theorizes—

thinks out plans, matures projects, and thus advances farming. He only toils—from necessity; this is practical; it is the practical alone. The practical alone is a ship in a gale without a compass. There are false theories—and the world is full of them. So there are many poor seedlings in the world before a valuable one comes to light. And so there is much practice in the world—and how much evil practice, to say nothing of misdirected practice.—*Rural World.*

DECORATE THE HOMESTEAD.

NEXT to wholesome food, home pleasures are necessary to enliven our spirits, promote our good health, and give a zest to rural life.—What can give greater satisfaction to a family for refined taste than to have the grounds around the homestead decorated with the beauties of nature so bountifully furnished us? The species and varieties of trees, shrubs, roses, vines, &c., are now so numerous that a choice selection can be made to suit every clime, soil and exposure, and to bloom and fruit all the growing season. See them tastefully arranged and gorgeously dressed with foliage of various colors, and decked with blooms far transcending the most costly jewelry in brilliancy, and perfuming the air with their fragance. In windy days they gracefully bow, prance, and whirl around like sprightly youth in the dance, and the melody of the breeze serves them for music. How beautiful the picture and great the enjoyment, to those who can appreciate it. It makes a cot a palace, and home a paradise: the owner a king and his wife a queen; it imparts a dignity to the manly graces of sons, and lustre to the beauties and virtues of daughters. The passing wayfarer is delighted with the scene, and sets it down in his mind as the abode of the great and good in heart, and the virtuous and wise in actions.

After planting climbing vines to clothe the veranda, and a few deciduous trees around the house for shade in summer, all the other trees, shrubs and roses, should be so arranged over the lawn that all will be seen at one view. Set the more dwarfed nearest the house, the taller farther off, and they will appear to rise in graceful folds as they recede from the eye, and the contrast of size, form and color of the various individuals will show to greater advantage, and that will give additional graces to their charm.—*Rural Adv.*

FARM OPERATIONS.

CULTIVATION OF TOBACCO

IT is important in the early growth of the plant to plough and work the soil deep once or twice, so that when it is ripening, the ground will be broken deep and fine and be less affected by drouth; this should be done before the roots have made much progress. Hence, the advantage of greater distance between the rows is, it can be plowed and worked with less damage to the roots. In this as well as all other crops, if we wish a good return, we must be active with plow and hoe before the roots run out, that we may have the soil in a mellow condition for the roots to run into, not waiting for them to spread in the packed ground, and then breaking up the ground, roots and all, trying to pulverize the ground for the roots. On our high land we should endeavor, by deep plowing, to counteract the bad effects of drouth, and on our flat lands we should aim to prevent the collection of water by drains, discharging at the lowest points. From the time the plants are set out, the earth around them should be occasionally stirred with a rake or hoe; at first hoe flat, but as soon as the leaves assume a growing disposition, begin gradually to draw a slight bed towards the plants, which must be closely examined even while in the nursery, to destroy the numerous worms that feed upon them, cutting the stalks and gnawing the leaves when first set out. After plants are too big for the plow, finish stirring the ground with a hoe, by drawing up good hills around the plants. If the ground is broken and stirred deep while the plants are small, they will suffer but little from drouth.

PRIMING.—The object and meaning of this is, to strip off the under leaves of the plant that they may stand clear off the ground and not be injured. You commence priming when hoeing, and finish when you do the topping; the plants are primed from four to eight inches high, six is the most proper height; but when the plants are small, late in the season, it is better to prime only four inches. The ob-

ject is, to have the leaves clear the ground. The prime leaves can be saved when of any size. When priming, leave a pair of leaves together, standing opposite on the stalk, and when topping, leave a pair at the top, standing the other way, that the stalk may be balanced, and have as many leaves on one side as the other.

WHEN TO DO THE TOPPING.—As the topping of the tobacco plant is all essential in order to promote the growth and to equalize the ripening of the leaves, I would observe, that this operation should, at all events, commence the instant that the bud of the plants shows a disposition to run up to seed. It is topped two to three feet high, and performed by nipping off the bud by the aid of the finger and thumb nail; washing the hands after this is sometimes necessary, as the acid juices of the plants otherwise would soon produce a soreness of the fingers.

In topping, leave from eight to sixteen leaves, according to circumstances and condition of the plants and lateness of the season. The less leaves you leave the larger they will grow and the sooner ripen. I consider from ten to fourteen leaves the most proper number to leave on; though some planters prime to six inches and top to eight leaves. When your plants are small and the season far advanced, prime less, and when your tobacco is large and on extra rich ground, top higher, remembering always to leave on about what you think will have time to ripen.

SUCKERING.—After the plants have been topped, the buds in the axils of the leaves push forth with great vigor, and must be pinched or broken out as fast as they appear, so that all the strength of the sap will go into the leaves.

WORMING.—The tobacco worm, which feeds upon the leaves, comes from the egg deposited on the under edge of the leaf by the hawk-moth, sphinges or hornblower. That begins to fly the first of June or perhaps sooner. This moth is large, and has somewhat the flight of a small bird, quick in its motions, but not very shy. It is of the ash-grey color, having two sets of wings. The spread of its wings is from three to five inches. It flies about at dusk seeking its food, which is honey, from various flowers open at night. It visits potato blossoms, and is particulary fond of the blossoms of the Jamestown weed. The more of these moths that are killed, the less will be the worms. The moth can be knocked down by watching near the flowers mentioned. The fields should be examined every other day, or at least twice a week, to gather the worms. It is easy to be seen where the worms are making fresh cuts, and they will be found on the under side of the leaves. If turkeys visit the field early in the morning, they will destroy a great many worms. The tobacco worm grows very large and looks very ugly. They are generally killed by pinching them between the fingers. It would be less disgusting for each one to carry a bag or pocket fastened to the side, and bag them for chicken meat. The most suitable persons to do the worming are children from ten to fourteen years old. They can be encouraged by giving premiums to those that gather the most worms. There is also a small worm which attacks the bud of the plant, and which is sure destruction to its further growth; and some again, though less destructive, are seen within the two coats of the leaf, feeding, as it were, on its juices alone.—*Tobacco Growers' Guide.*

THE PEA.

THERE are but few vegetables, probably, more universally admired than the pea. Of all leguminous plants, it is the most nutritive. The following table exhibits the results of analysis by distinguished chemists:—

100 lbs.	wheat	contain	85 lbs. nutritive matter.
" "	rice	"	90 " " "
" "	barley	"	80 " " "
" "	beans	"	89 to 90 lbs "
" "	peas	"	93 lbs. " "
" "	meat, average		35 " " "
" "	potatoes	contain	25 " " "
" "	beets	"	14 " " "
" "	carrots	"	14 " " "
" "	turnips	"	8 " " "
" "	bread	"	80 " " "

It should be recollected, however, that *weight*, not BULK, is here made the standard of comparison. Peas, pound for pound, it will be seen by the above table—and this we have no reason to regard otherwise than strictly correct—contain two and a half times as much nutriment as meat. Were the comparison to be graduated, on the contrary, by the criterion of *bulk*, or volume, the advantage would be greatly in favor of the latter. Between a barrel of peas and a barrel of pork, for instance, there could be no comparison, unless, indeed, we should admit into it the relative estimate of cost of cultivation and of production.

The principles on which the elementary properties of vegetables depend are, gum or mucilage starch, gluten, jelly, fixed oils, sugar and acids. The alimentary proper-

ties of leguminous plants, to which class belongs the pea, depend upon a compound of starch and mucilage. The flour of peas is sometimes formed into bread, but in this form it is considered unhealthy, being very ponderous and difficult of digestion, and consequently, in some constitutions apt to engender unpleasant affections.

In a green state, peas are not so nutritious as when mature. They afford, however, a very agreeable and palatable food, and in most markets, when introduced early in the season, ordinarily command a high price. Of the most valuable kinds, the *Dan O'Rourke* is perhaps the best very early pea, and the *Champion of England* the next. There are, however, other kinds, which possess great value, both as a field and garden vegetable.

Peas are easily raised, do not require a very rich soil, and ought to be had in abundance in every farmer's family.—*N. E. Farmer.*

HOW TO KILL CANADA THISTLES.

MR. EDITOR:—By your request I will tell you how I kill Canada Thistles. In the same way that we would kill a den of rattlesnakes, viz: cut their heads off as fast as they appear out of the ground. The roots cannot live without a top any more than a fish out of water.

The way to do this will depend on the location. If in an open field free from all obtructions plow deep and thorough as often as they appear above the ground. One season with four or five plowings will generally kill every one, but plow more if necessary. This like rot in sheep must be done in earnest. Less plowing will be required in a dry summer.—Do not plow any more land than the thistles cover as the plow might scatter the roots in other places.

Among stones, stumps or other obstructions, use a sharp instrument like a large chissel with a long handle, if the bed is a large one with which cut the thistles off as deep in the ground as practicable. For a small patch use a butcher's knife or any sharp instrument. If attended to before they are spread over a large territory, the time of doing it will hardly be noticed.

If allowed to spread over our rough and timbered land where we can not plow, our western country will be ruined and we shall have to emigrate again. Each town should be compelled by law to raise sufficient funds to kill any patch in said town that is now or may appear, as it is not safe to leave the matter with the owners of the soil.

Any obnoxious weed can be killed in the same way. I think many of your readers know all about the *White Daisy*, who have lived in the Eastern States, that they are not only hard to kill but have the power to kill out every thing which tries to grow near them.

A few years ago I came across a small patch by the road side four miles from home. I at once used my pocket knife as above directed. As I expected to travel that way often, I appointed myself a committee of one to attend to them and did so, and they were all killed that season. I do not know of a Canada thistle in his town or immediate vicinity. However large the patch located as first mentioned, I would agree to kill them for a moderate sum or no pay.

LEWIS CLARK.

MAXIMS FOR FARMERS.

AN old Illinois farmer gives the following maxims for farmers to practice:

When you wake up do not roll over, but roll out. It will give you time to ditch all your sloughs, break them up, harrow them, and sow them with timothy and red clover. One bushel of clover to two bushels timothy is enough.

Be sure to get your hands to bed by seven o'clock, they will rise early by the force of circumstances.

Pay a hand, if he is a poor hand, all you promise him; if he is a good hand, pay him a little more; it will encourage him to do still better.

Always feed your hands as well as you do yourself, for the laboring men are the bone and sinew of the world, and ought to be well treated.

I am satisfied that getting up early, industry, and regular habits are the best medicines ever prescribed for health.

When it comes rainy, bad weather, so that you cannot work out of doors, cut and split your wood.

Make your tracks when it rains hard, cleaning your stables, or fixing something which you would have to stop the plow for and fix in good weather.

Make your tracks, fixing your fences or gate that is off its hinges, or weather-boarding your barn where the wind has blown off the siding, or patching the roof of your house or barn.

Make your fence high, tight and strong, so that it will keep cattle and pigs out. If you have brush, make your lots secure, and keep your hogs from the cattle, for if the corn is clean they will eat it better than if it is not.

Study your interests closely, and don't spend your money and time in electing presidents, senators and other small officers, and don't talk of hard times when spending your time in town whittling on store-boxes.

Take your time and make your calculations; don't do things in a hurry, but do them at the right time, and keep your mind as well as your body employed.

BREEDERS' DEPARTMENT

BLOOD WILL TELL.

THIS is so the world over—in man, in the brute, and even in the sap of vegetables. Blood will tell. It makes not only the breed, but the animal. It is therefore in the hands of the farmer to direct his stock—of all kinds. He may grow thin necks, and thick fleeces —good layers, and easy-fattening porkers; his horses may have mettle or otherwise. He may direct the current towards a good dairy, good mutton, or fine wool, He has everything in his hands to a greater or less degree. If not, he is not fit to be a farmer. He must have some advantages of this kind to begin with. Carelessness is inexcusible: it is greatly injurious. The earth will not be hurt, and not resent it. So with stock. Bad blood will recoil on the owner—and in this race of successful high breeding of cattle, he will stand no chance.

If butter and milk are desired, secure the Ayrshire, which was bred (in England) for this purpose, and for a long time, till the object of a good dairy cow was secured. We have it now ready to hand to get; not always so ready of access—but it may be obtained; and when once obtained, no more trouble after that, as the machinery will work so much the better when stimulated by the good qualities which develope themselves under the eye of the owner. No trouble, no labor, where there is inclination, encouragement. It is on this principle that our great stock breeders have become what they are—intending (most of them) in the start, only improvement.

The age, the long effort of man, has prepared just what we want—not only improvement, but almost perfection. We have but to select. And though difficult in some cases, still the thing can be obtained, and will be by the enterprising. It is these that have the improved breeds, or are in the way of getting them. "Where there is a will there is a way."

We have mentioned the Ayrshire for the dairy. For richness of milk, and good quality of butter (flavor and grain), nothing is equal to the little Alderney. The value of a dairy is *always* enhanced where the blood of the breed is perceptible, and it exists in many localities of the country among the native stock, giving the saving eminence to that breed.

An infusion of this blood (the Alderney) is perhaps preferable to the Ayrshire—though we have seen noted results of the latter. Where the richness of the Alderney can be joined to the abundance of the Ayrshire, the success is often complete. We know of such instances. Such a cow would be best of all as a single cow, where both richness and abundance of milk are required.

Where cows are kept in a miscellaneous way—some for milk, others for beef, &c., the American Short-horn takes the precedence. It affords all extensively, especially beef, and of a good quality.

Among sheep there is a wide field of choice.—The Long-wools are desired generally by those who want mutton — and the carcass affords the most abundant. If quality alone is sought for—quality of mutton—the South-downs are pre-eminently the sheep—and they have a fair carcass and a good fleece. For wool, however, the Merinos carry the palm. Then there are crosses—the Shropshire, a strain of the Leicester with the Down; the Hereford hire, a cross of the Cotswold with the Leicester. These last have taken high premiums in Europe.—It is in consequence more of the thorough care bestowed upon them, than in the cross. They are, however, an estimable breed. They are good breeders, good mothers—qualities they inherited.—*All* the good qualities of the race (of sheep) have not yet been combined in one breed, in the perfection they exist in each. The different breeds are interesting only as

affording a chance for selection—a selection to meet particular wants.

Among swine, there is much inquiry for the Chester White pigs—very fine and valuable, as are also the Suffolk and the Essex. The latter is probably at the head of the swine race, in the various qualities that recommend themselves—in the fine distribution of lean and fat, and in the easy-fattening principal—two of the main points. The color (black) is an objection to some, but affects not the meat. The size is fair, weighing 200 lbs. at six months; double that at maturity.

For a fatter breed—more fat in proportion to lean—for easy-fattening, the Suffolk is hardly surpassed. It is a beautiful and desirable breed.

Our article is too long, or we should mention the various breeds of poultry. We will say, first the Brahma for winter laying; the Spanish for general laying, large eggs, and fine appearance. The Spangles are also good layers. So are the Chittagong and the Dorking. Some prefer the Bolton Gray. We mention them as all good breeds to be selected from. The Black Spanish and Brahma, or a cross between them, are our favorites for the year's laying. They never disappoint; only give good treatment.

Secure the blood (of all kinds of stock) in the start, and thus get the benefit *at once*—not waste years in loss and labor, when a little trouble and expense in the start will correct all, and improve not only the pocket but the man. The general influences of success and beauty have this effect.—*Colman's Rural World.*

TRAINING HEIFERS.

IT is a very easy matter to train a heifer to stand quietly to be milked, but it is an easier matter to train them to jump, kick and run. The way to teach them to stand still is to always require them to do so. The way to teach them the contrary is to give them a good opportunity for doing so. If there is naught to hinder a wild heifer from running, and her fears prompt her to run, she can and will run. On the contrary, if she cannot run, in a short time she loses her fear, and stands from habit, and habit is one of the most powerful influences in this world, either for brute or man.

If you want to transform a wild heifer into a well-behaved, well-trained cow, you must be patient, and exhibit no temper Never strike or kick her. She must first of all get acquainted with you, and learn that you will not hurt her. She must learn not to fear you. If, in winter, it is best to milk in the stable, make as little fuss and as few alarming motions as possible. Handle very gently. Be careful and not pinch the teats. This is a great source of trouble. A cow naturally wishes to be rid of her milk. She stands quietly until some careless milker has given a squeeze that hurts, when she kicks and runs. By allowing such a course a few times, the habit will be confirmed.

The best way to manage, if you have no stable, is to have a small, well-fenced yard, and teach your heifers to stand for milking in that; or, next best, to tie them, using them very quietly. We have trained a wild young heifer to milk on the open prairie by putting a rope about her horns and holding the rope while milking, so that if she started we were ready to stop her, thus keeping her under our control.

No man or boy is fit to handle animals unless he can control them, and control himself. Neither is it right to chastise the ignorant.—*Cor. Western Rural.*

POULTRY.

ONE hundred fowls are as many as should be quartered upon a single acre. As high as one hundred and fifty have been kept, but for success in breeding and producing eggs, at least one square rod of ground should be allowed each fowl, and more than this would be better.

In breeding fowls, great care should be taken to produce not only large males, especially if breeding for market is to be followed. If the production of eggs is desired, great care should be taken to hatch no eggs from which to raise breeders, except those of good layers. By following this course a flock of hens may be produced which will lay a large per cent. more eggs than if chickens are hatched from unselected eggs, without care, thought or design.

Who that has had the care of a flock of any kind, but has observed the superiority of some of its number over others in egg producing. While many have noticed the fact, few have profited by the hint.

It has been practiced so long to secure a large, fine specimen of a male in fowl breeding, while any female was deemed "good enough," that we have frequently seen flocks of young poultry in which the males

exceeded the females in size by at least 50 per cent. This need not and should not be. The same care should be taken in producing fowls as other farm stock, and the same general law governs its production.

Value of Poultry.—Few matters pay better than poultry around a farm. Where success is so easy, failure indicates great negligence. Begin with the spring if you have been careless hitherto, and your attention will be well repaid before the autumn arrives. Aside from the convenience and profit of having always abundant supplies of poultry and eggs, attention to the various kinds (turkies, ducks, geese and chickens) will pleasantly occupy a share of the time of the younger members of the household. The gift of some of them to the children will have a good effect in stimulating attention to the whole brood.

Poultry in England is a long way behind France, the dampness of the climate being unfavorable to fowls. The English poultry yards are supposed to yield but about 4,000,000 of dollars annually, while the produce of eggs in France is said to be twenty million dollars, and of fowls as much more. A large portion of the population of the south of France subsist chiefly upon poultry, so far as meat is concerned.

Chanticleer. The noble and ancient chanticleer, whose clarion notes have been the world's timepiece ever since Peter denied his master, and have never failed to sound the appoach of every rising sun; the bird that saved old Rome from conflagration by his warning voice in dead of night —shall these lose their old and established rank and give place in man's affection to breeds of swine and sturdy bulls of Bashan? What are all their uncouth grunts and frightful bellowings about the farmers' dwellings, compared with all the music of the cheerful cackling and crowing with which the poultry yard resounds from day to day? If there is not music, there is life in it.

How to Improve Common Fowls.

To improve the form, size and laying properties of the common barn-door fowls, put with the hens a Dorking or Brahma cock; then if the produce should be too leggy, introduce a large-bodied Creeper cock, as it is found, by experience, that the influence of the male is greater than that of the female. By this means you can improve your stock of fowls; and to keep them so, select the best pullets, and change the cocks every year or two, using no other variety than those enumerated above. This method has been tried, and proved satisfactory.

To have the poultry yard profitable, the fowls should not be kept until they are old. There is no objection to preserving a favorite cock, as long as he is active and lively; but hens, after three years, will not produce as many eggs as those of one or two years. Much, however, is depending on the breed kept, so far as good layers are concerned.

If you wish your hens to do well, and lay well, keep them in a moderately warm, well lighted, well ventilated and strictly clean place. Feed them all; they will eat of boiled potatoes, mashed and mixed with shorts and middlings in the morning, and on corn, oats or barley at night. They are fond of buckwheat, some fresh meat or chandler's scraps, with sulphur mixed with meal. If you don't wish to find now and then a dead hen, don't have the roosts for the large hens more than three feet from the ground, and then two ladders for them to go up and down on. In this way, if they have plenty of broken bones and pounded oyster shells, old lime, water, plenty of gravel, and dust and ashes to roll and bathe in, they will pay.

Poultry, it is thought, ought always to be confined; but if so, instead of a dark, close, diminutive shed or hovel, have a spacious, airy, light place, constructed especially for them. In both large and small establishments it will be necessary to separate some fowls from the rest, when particular breeds are to be raised; separate pens or wards must be provided, either at some distance from each other, which is preferred, or with divisions to prevent any intrusion, by which crossing might be prevented.

INFLUENCE OF RAILROADS ON THE HATCHING OF EGGS.

A peculiar effect of the proximity of railroads on the hatching of eggs has been mentioned in some French papers. It has been found that there are scarcely any chickens raised in all those poultry yards which are situated in the immediate neighborhood of the rails of a much frequented road. This fact has been observed in various parts of France, and is supposed to result from the earthquake-like trembling or shaking of the soil caused by a passing railroad train, which exerts an unfavorable influence on the eggs. It would be indeed interesting to learn whether something sim.

ilar to this has been noticed on this side of the water.

SALE OF DEXTER.

The celebrated trotting horse, Dexter, who last season made the fastest time on record, was sold at auction, on Long Island, on the 9th ult. He was purchased for Mr. George Alley, his former part owner, for $14,000. Dexter is eight years old and is said to be in fine condition. A full sister of Dexter, four years old and closely resembling him, was sold for $1,500. A brown trotting mare was sold at the same time for $1,800.

INFLUENCE OF FOOD AND LOCALITY ON WOOL.

SHEEP, as a class among the domestic animals, stand conspicuous, from the fact that they can live and prosper under the most diverse climates, no matter whether it be hot, moist, or cold, there they can and do live, a source of profit to their breeders at all times, and at all seasons, in the hot plains of Africa, the moist pastures of Holland, or the snow-covered grounds of Russia; they thrive everywhere, and nature seems to have done everything for this animal, whose fleece is almost indispensable to mankind. It can truly be said, that as the quality of the land is, so will the quality of the wool be increased or deteriorated; for instance, if the land is good the wool will be also; if of a medium quality, the wool will be of less value, in a like ratio, and if the land be poor and sandy, the wool is poor also, short in the staple, harsh and brittle. If we should take two flocks of Merinos, as nearly alike in regard to form, &c., as possible, and transport them to a foreign land, where they would be subjected to a different feed and keeping, they will in a few years bear wool which has become like the wool of the Merinos of the country into which they have been taken. Science accounts for this change, on the ground that the organism naturally adapts itself to the conditions under which individuals and animals live. It is only by a constant renewal of the stock under such circumstances, that the original type can be maintained. This, of course, is not a very economical practice. In Spain the wools are very coarse, and their tissue lacks the softness and silkiness of the wools of Germany and Australia. This difference in the fineness is owing, in a great measure, to the lack of care and attention bestowed on the flock, and also to negligence in the selection of breeders. The sheep are also accustomed to lie on the ground, and are exposed to the night dews, sun and dust, and this helps to produce the coarse wools.

In Russia a different method is practiced; there the weather is extremely cold the greater part of the year, and the sheep live mostly in folds, and thereby they lose the vigor which they have in more temperate climates. The hot weather in Russia is of but short duration, and as the shearing takes place before the hot weather comes on, the sheep do not come under its influence; therefore, the Merino wools of Russia are celebrated for their softness. Owing to the good management, good pasturage, and temberate climate of Germany, the wools of that country are celebrated for their fineness, and silkiness. The Australian wools are as pliable and soft as those of Russia. It would be supposed that, living in the open air, the same as the flocks of Spain, their wool would be coarse. As the pastures in Australia are often parched up by drouths, the flocks which do not receive strengthening food in folds are not in a natural state of health, and their fleeces feel the effect of this management. Although the wools of Australia look well, and handle well, when made into cloth, they lack strength and lasting qnalities. There is no doubt that food exerts a great influence on the quality of wool. At the end of winter oftentimes forage is scarce, and sheep are not fed sufficiently, and at such a time the influence of poor feeding can be plainly seen in the fleece, becoming of a whitish blue, if well fed the fleece has a milky, yellow shade.

BOILED PEAS FOR MILCH COWS AND HOGS.

IT may not be generally known that boiled peas, as food for milch cows and hogs, are far superior in value to corn, or meal. They take to them with avidity, and in point of economy no food can compare with them for these animals. Two bushels of peas are worth more to fatten hogs and increase the milk of cows than three bushels of corn.

Hogs not only fatten twice as fast on this food, but their general appearence is much improved; they are not so apt to get cloyed, as when fed on corn and meal.

In cows the effect is still more marked; the animal soon begins to look sleek, her appetite increases, and in a few days she will give almost double the amount of milk that she gave with her old food.

The peas should be soaked in water over night, before boiling, as it increases their bulk and they will require less boiling.

As a substitute for grain in winter they have no equal; and they have this advantage over root crops that while the amount of milk is greatly increased it is free from unpleasant taste so often imparted to it by roots.

Farmers, give the boiled pea a trial, and see if it does not compare favorably with the carrot and mangel wurtzel.

SOILING COWS.

AT the discussions of the New York State Agricultural Society's meeting, held some time since, Josiah Quincy, Esq., made the following statement of his practice:—

"Owned a farm that twenty years ago produced only twenty tons of hay; now it gave him every year three hundred. This improvement was effected by the introduction of the English system of *soiling*. The saving of fencing by this system would be immense. On one hundred acres he had not an interior fence. Farmers do not appreciate the value of cow manure. Most of his information was derived from Mr. Dana, a chemist, and author of the *Muck Manual*. He was chemist to the manufacturers of Lowell, and cow manure was the only thing known that would *set colors*, until Mr. Dana, by studying the composition of cow manure discovered the principle in the manure so necessary to the manufacturers, and taught them how it could be obtained in a better and cheaper way. A cow will produce 3½ cords of solid manure in a year, and the liquid manure is equal to about three cords of the solid. If dry muck was used in the stables, this quantity would be increased three-fold, making it about 20 cords a year to each cow. Such manure, within five or eight miles of Boston, was worth from $5 to $8 per cord. From these figures, he had come to the conclusion that the manure of a cow was as valuable as her milk; but, for fear he was over-estimating its value, he submitted the question to Mr. Dana, who had given, perhaps, more time and study to this subject than any other man, and Mr. D. pronounced his estimate correct. On this authority, therefore, he would state that the manure of a cow was as valuable as her milk. The farmers of this country have not yet learned how much can be done on a little land. The laws of France divide the farms among the children, and it is estimated that there are in that country 250,000 farms less than five acres each. The farmers of this country should divide their farms with their sons, instead of sending them West, and grow a large amount of produce on a small breadth of land, and great good would result to both old and young."

At a subsequent meeting of the Society, the subject under discussion being "*What is the best material for soiling?*" Mr. Quincy made the following statement:—

"Grass, oats, corn and barley were all used. Begun with grass, and continued its use until about 1st of July. About the 5th of April sowed oats, four bushel to the acre, and made another the 20th of April, and another the first of May. The oats furnished food during the months of July and August. After the first of May planted Southern corn in drills, and again the 1st and 20th of June. This supplied food after the oats were gone, during the months of September and October. Next sowed barley, making several sowings about ten days apart, until the 1st of August, and that gave plenty of food until time to dig the roots, when the tops were fed. English writers thought that seven cows could be kept by the soiling system for one by the old plan. With Mr. Q. an acre would keep three or four cows, the difference depending upon the manuring. It is almost impossible for us to realize the value ascribed to manures in England. Mr. Mechi, at Tipton, used all his manures in a liquid state, forced through iron pipes by an engine. The crops produced by this system seemed incredibly large. At the Willow Bank Dairy, manure is applied liquid by carts and casks. The crop is cut green for soiling, and then the land is deluged with manure water. The result is four or five crops in a season, seeming almost fabulous in amount. The farmer must rely on home-made manures, and the making of manure must be a main feature in all good farming. Our artificial manures were greatly adulterated. Farmers thought that *milk* was the only article that could not be adulterated. Muck was of great value in saving manure and in increasing the manure heap. By composting with muck the amount may be trebled. Mr. Q. red a letter from Mr. Dana, endorsing the statement he had made the previous evening, that the manure of a cow was worth as much as her milk. In his own stables he made a trench four inches deep

and eighteen inches wide, water-tight, at the back of the stables, and over the barn cellar. Filled these trenches with muck, to save the liquid manure. In England similar trenches were sometimes filled with water. Into these all the manure was swept, when it was allowed to run into a reservoir, and the trenches were again filled.

In answer to a question in regard to the health of his stock, Mr. Q. said he had not had a sick animal in a long time. They appeared quite comfortable. Let them out in a yard for an hour or so, morning and afternoon, but they generally appeared glad to return to their quarters. The cow don't need much exercise. In the pasture, when food is plenty, they eat what they need, and then lie down carefully and chew the cud. Just in the best season pasturing may be as well, and perhaps give a little more milk, but this only lasts for a few days—just in the flush of grass. Mr. Q. was much in favor of soiling—liked it; made it easy to keep a large amount of stock on a small farm—thus increasing the fertility of the land and the number of farms and farmers. In answer to further inquiry, Mr. Q. said, in a well-arranged stable it was very little trouble to take care of stock in this manner."

PROPOSED IMPORTATION OF HORSES, CATTLE AND SHEEP BY NOVA SCOTIA.

MUCH disappointment was caused this season by the non-arrival of a number of bulls from Canada, for the purchase of which arrangements had been made by the Board of Agriculture. It was found that in spring time the prices of such animals were so high, and the opportunities of speedy transit so uncertain, that the Board had to forego the purchase for the season.

In order to meet the great demand for full-bred stock throughout the Province, the Board has determined to import a number of bulls of Devon, Durham, and Ayrshire, and other improved breeds, this fall. These animals will probably be kept on the Provincial Stock Farm over winter, and sold in Halifax in the spring, before the rising of the Legislature, in order that societies throughout the country may, through their representatives or otherwise, have opportunities of purchasing at the proper season, when the animals are required.

It is intended likewise to obtain a number of rams of those large Leicester and Cotswold breeds that have already given so much satisfaction in the Province. The rams will probably be sold in Halifax in October.

The Board has further made arrangements for obtaining from England, if it can be advantageously done, a few heavy draught horses. These will form a valuable addition to the blood horses and mares which now form the provincial stud, and will enable the Board to meet the wants of the various counties more fully than it has been possible to do during the present season.

MARKING SHEEP.

THE advantages of having every sheep in the flock marked with plain figures, such as can be easily read even across a common sheep-yard, are too obvious to every one to need any argument in its favor. The best materials for marking we have ever used are *Red Lead* and *Pure Japan*. This mixture will work equally well whether you use iron or wooden types. —Many try Venatian Red, which looks very well at first, but it soon rubs off and the figures become obcure.

Others, again, when using Japan, mix boiled linseed oil with it, but this is wholly unnecessary. The lead mixes no better with it than with Japan, and as the latter dries more rapidly the number is not so likely to get rubbed and blurred. The best dish to mix them in, is an old fashioned "flat tin," such as our grand-mothers used to bake "Johnny Cakes" in before their open fires. Into this put a few spoonfuls of lead and as much Japan as is needed to mix with it, so the mixture shall be about the thickness of West India molasses. This spreads out over the bottom of your tin, and is just the right depth to cover the surface of your type, hence there will be bnt little loss.

When properly applied we have seen the figures on the darkest Merinos showing themselves with the clearest distinctness round to the end of the year.

The marking should be done soon after shearing, and when put on the sheep should be allowed to go directly from the hands of the marker into an open lot, to prevent them from huddling together and obscuring their numbers by rubbing against each other.—*N. H. Mirror.*

ENGINEERING DEPARTMENT.

CONSTRUCTION OF BARNS.

DOUBTLESS, some of the readers of the RURAL contemplate building barns, &c., this fall, and perhaps a few suggestions from a practical mechanic will be useful to each. First in order, then, if a barn or stable is to be built, is the selection of a site. Let it be sheltered, if possible, from northerly winds, and upon a dry piece of ground, if gravelly so much the better. The yard should be so constructed as to prevent the waste of manures, and the walls, or pillars of the foundation, should be placed deep enough into the ground to prevent heaving by frost. I prefer a wall built wide at the bottom, like the letter T inverted, to prevent settling. Second in importance, is the selection of timber for the sills and joists. They should be of durable timber, white or burr oak, red elm, black walnut, red or yellow pine, &c.; either of these will do, but they should be sound and free from sap wood. If set upon pillars they should never be less than 8 by 10 inches, and set edges up, and the pillars should not be more than 12 feet apart from the centers. The joists (floor timbers) should be of the same dimensions, and one-fourth as thick as they are wide, which is the best shape for strength yet used, and they should be of straight grained timber. They should always be securely wedged, to prevent soaking or tilting, and where they are over ten feet long they should be bridged, which is done by nailing strips about two inches wide between them, at the top edge of one, and the bottom of the other, forming an X between them. To prevent mortices from rotting out, an application of coal tar, while hot, or if that cannot be had, a strong brine of salt poured into all the mortices facing up, that would catch water, will answer the purpose. The foundation should be strong enough to support at least 1,000 lbs. to the square foot over the whole floor, or else the weight of the building and contents will damage it; therefore the foundation wall should be at least two feet broad at the bottom, and may taper to one foot at the top, with pillars through the centre under the cross sills. Joists, where granaries are to be built, should never be over 12 feet long and 10 inches wide, and placed close enough together to support a weight equal to 600 lbs. to the square foot. A granary of wheat 10 feet deep will weigh 480 lbs. to the square foot; wheat being the heaviest of grains, it is safe to take it for a base of calculation. Any man can soon tell near enough for all practical purposes what a granary full of grain will weigh, by dividing the contents in cubic feet by one and one-seventh, and multiply that by the weight of a bushel of the grain, taking one-half for corn in the ear.

THE DALTON KNITTING MACHINE.

THE following are some of the points claimed for it:

1st. Its great simplicity. The operation of knitting consists in turning a crank like a coffee mill, with this difference, that the knitting machine turns much the easiest. A small child can easily work it.

2nd. It uses the simple and substantial spring needle, which for genuine simplicity cannot be improved upon. This spring needle is inexpensive, costing but one and one-half cents each, and less at wholesale; seldom breaks, and *never requires oiling*; thus leaving the knitted cloth as pure and spotless as the yarn or worsted when it enters the machine. The most delicate material can be knit with perfect security.

3rd. It will knit a great variety of stitches, plain, ribbed and fancy. These stitches are all perfectly formed by the machine, and more beautiful than it can be done by hand.

4th. It can be run by hand just as fast as the crank can be turned, and at a trifling cost it can be fitted by the purchaser to run by power 150 revolutions per minute.

The power machines have been tested at a speed knitting nearly 23,000 *stitches per minute*, and have produced at the rate of one and one-half dozen pairs of socks per hour.

5th. It readily knits-in knots and imperfections in the yarn without breaking the needles, and invariably places them on the *under side* of the cloth; thus leaving the face of the cloth very even and smooth.

6th. The stitches possess a great amount of elasticity and consequent durability in wear.

7th. It can be put to work in a very few minutes after being unpacked from the box in which it is shipped.

8th. The work when knit passes directly

up from the needle in plain sight of the operator, and cannot come in contact with grease or oil.

9th. If the work is run off the machine through the carelessness of the operator, by the breakage of the yarn, or otherwise, it can be quickly slipped over the needles again, and the machine started with very little loss of time.

10th. If a stitch is dropped it can be instantly picked up, so that it would be impossible to tell where it was dropped.

11th. The plain stocking stitch is precisely the same as the old fashioned hand stitch, but *much more perfect* in appearance—it is easily raveled out when desired.

12th. The fancy *crochet stitches* produced, make it invaluable for the manufacture of the great variety of fancy worsted work.

13th. It will knit the web from one and one-half to five inches wide, as may be desired, and when cut open, making a breadth of cloth twice that width.

14th. It knits yarn made of any material—hard or soft, twisted, strong or weak. Soft twisted yarn is much the best for machine knitting; knits easiest, and makes a better cloth. It will knit a yard in length in about ten minutes; knitting-in the heel without taking the work off the machine, and if desired, make two dozen pairs of socks (or even more) in a day, leaving the hand work to be done simply to knit once around the top, bind off the heel, and unite it to the lower half of the foot and then closing up the toe, when you have as good an article as can be knit by hand, and much more even fabric.

This machine gives the poor man an opportunity to compete with the manufacturer. It is not, like the sewing machine, confined to combining portions of fabrics already manufactured. It is a *producer* of fabrics, transforming the simple thread into articles of daily use. Its owner is not merely an *operator*, but a *manufacturer*, who pockets all profits.

A few machines started in each town on the various kinds of work they produce, will give the party embarking in the enterprise a larger profit than is to be made in almost any other business with the same amount of capital.

Will it pay to buy a knitting machine? This is a question very naturally raised by those to whom the subject is first presented. It is demonstrable, by simply and easily comprehended facts, that the knitting machine is an article of *profit*, either in the family, in the neighborhood, or in the manufactory.

The average number of persons in a family is, say, six; each person will require at last five pairs of socks or stockings every year; the family thus requiring *thirty pairs* every twelve months.

To knit, of coarse yarn, one sock per day, by hand, is considered very rapid work. Two days are thus consumed in knitting one pair, and *sixty days* in knitting the thirty pairs. Long stockings and fine yarn require twice the length of time, and it may be safely estimated that the hosiery of the family cannot ordinarily be knit by hand in less than *three months*. Besides these, there are under garments, shawls, leggings, hoods, scarfs, sacques, affghans, bed-quilts, comforts, mittens, undersleeves, wristlets, etc., the making of which require so vast an amount of time, that in some cases they are either purchased at high prices, or are dispensed with altogether. Now, the knitting machine makes ordinarily six thousand stitches in a minute, turning out a pair of socks or stockings in about fifteen minutes. The thirty pairs, taking the lowest possible estimate, can be knit on the knitting machine in fifteen hours. Here is a saving in the knitting of the hosiery of a family, of from fifty-nine to eighty-nine days in a year, and the machine will last a life-time. The family knitting is not, indeed, executed by the housewife within the time here designated, but it pursues her like an insatiable task-master, early and late; at home and abroad, in season and out of season, and almost into the sacred vestibule itself, until it would seem to transform her into an automaton knitting machine, running all the year around.

It not unfrequently happens in domestic economy, that the things which can be most cheaply supplied by mechanical art, are because the manipulation is easy or habitual, still wrought out by hand, in seeming indifference to the fact that they cost many times their commercial value in the currency of the times. It happens so in hand-knitting. The knitting machine will in a measure remedy this evil. "Time is money" is the American maxim. But who does not know that time is not a whit more money than it is health and education and a well-ordered life. What woman can be expected to improve her mind, or that of her children, or enjoy rational and healthy recreation, whose day and even night hours are devoted to petty toil?

Let families compute the actual cost of the socks, stockings, and worsted work which they usually purchase, or knit by hand, and they will find proof that the knitting machine will prove a savings bank in the family.

Every machine is thoroughly inspected and approved by a practical knitter, before leaving the factory, and is *warranted.*

The weight of the machine, securely packed for shipment to any part of the world, is about 70 lbs.; this includes all extras.

Each machine has a piece of work on it of its own production when sent out, and with each, instructions are sent for a person of ordinary intelligence to start it successfully, without further assistance.

The price of needles is $1.50 per hundred.

The machine can be seen in operation at our salesroom, where samples of the variety of work made, can be examined.

Agents are wanted in all parts of the world, to whom a liberal discount will be made.

For further information and circular of testimonials, address(enclosing stamp) the DALTON KNITTING MACHINE COMPANY, 569 Broadway, New York.

LABOUR-SAVING MACHINES.

NUMBERLESS as are the machines in use upon our farms, there are yet heavy operations for which no substitutes for human hands have been found out, and the field for invention as applied to agricultural practices has much in it that is still unworked, and that calls for the aid of machinery. Among these wants are contrivances for loading hay upon the rack when in the field, for loading, unloading, and spreading manure, (doing away with the very hard work of shovelling,) for the more perfect pulverization of the soil before seeding, for the better raking of hay with a horse, for the digging and gathering of potatoes, and numerous other occupations. Some of these, it is true, have been attempted, but are, so far as we are acquainted, rather failures than successes, and show that they need to be improved upon to become of much utility. That they will ultimately succeed we have no doubt.

The remark has often been made that with the great change which has been brought about in the farmer's work by the introduction of machinery, it would seem that they would have more leisure time than they do, but, on the contrary, they appear as busy and as hard at work as ever. This, we think, is only in part true. All farmers have enough to do the year round if they are so disposed, for many of our farms are comparatively new, and there is much to do to clear them up, properly fence them, build good buildings and keep them in order. But aside from this, farmers do have more leisure and get along with much less hard work than formerly. This leisure is being turned to good account, we judge, for farmers are better informed, read more and think more than before the days of machinery. The work of the inventor has not only blessed the farmer by rendering his labour easier, but by enabling him to have an oopportunity to store his mind with useful knowledge, thereby taking a higher rank in the scale of humanity. And the next generation will continue to reap the benefits of this introduction of machinery to a still greater degree than the present.—*Maine Farmer.*

BUILDING HOUSES.

THE practice of putting heavy timber in frames of houses, such as were used fifty years ago, is generally discontinued, except in the "back-woods" of our new countries.

In no case, in the erection of a one or two story dwelling, of ordinary size should the sills and posts be larger than six inches by eight. Larger timber is positively worse than useless.

The studs should be 3x4 along the outside of the building; but for partitions, they may be 2x4, and they will be quite as serviceable as larger ones. Even strips sawed from inch boards will do placed alternately between studs 2x4.

Probably there is no greater folly in existance, than that shown by some men, in putting up frames with timber two or three times as large as it need be. The house is no stronger, and will last no longer, than one put up in what some people call the "balloon style" of frame. In fact frames on the balloon style are the strongest, as the studs are "toe-nailed" to the sills, girders and plates, which makes the most substantial frame possible, and twice as stiff as when the studs are morticed into the sills, &c.

In some places much smaller timber is used than we recommend. At a late meeting of the New York Farmers' Club, Mr.

Solon Robinson, of the *Tribune*, is reported to have made the following remarks:

He stated that he now dwells in a house built on the balloon style of frames, the largest stick of upright timber in the building being only two by four inches square. He had adoped the practice, now in vogue in many other localities, of "back lathing and plastering," which is not only a most effectual way of rendering a house warm in winter and cool in hot weather, but the back lathing renders the house much stiffer than all the branches that could be put into the frame. The "back lathing" is done by nailing strips of boards on the broad sides of the studs, sawing lath into short pieces, just long enough to extend from one stud to another, and nailing them to the strips that are fastened to the studs. A heavy coat of mortar is then laid on the lath, as any wall is plastered. Clay will subserve a good purpose for the "back plastering." After the mortar has become hard, the inside of the studs is lathed and plastered. By this means there will be two air-chambers, instead of only one, between the outside siding and the papered or white-washed wall on the inside of the building. S. Edwards Todd said that when he lived in Central New York he erected four houses in the balloon style of frame, and he thought the subject might be ventilated with interest and profit to builders. He said it was a mistaken idea that a *framed* building is stronger and stiffer than a balloon frame, to say nothing of the comparative expense of the two modes of building. In building a large two-story house, he had used timber for sills, only two inches by eight, which was just as good when resting on a substantial wall, as a stick eight or ten inches square. One of the points gained in a balloon frame is, when a stud is sawed off square, and stood erect on the square end, and nails "toed in" on every side, it will not only maintain its erect position alone, but much force will be required to push it over. But when such timber is put into a framed building the studs and post will not stand erect except they are held up. Another point gained is, the ends of the joists are all nailed securely to the studs, which imparts great stiffness to a building; whereas the joists in a frame building simply rest in gains cut in the summers or beams, where they remain loose. Still another point is, the economy of labor and timber. Much less timber is required to erect a balloon frame, and the frame of a house can be put up with less than half the labor required to erect a frame with mortices, tenons and braces. The ends of the braces in balloon frames are sawed in a mitre-box, and nailed to the timber. Balloon frames always make stiffer houses than can be made by simply framing the timbers together with mortices and tenons.

CHEAP PAINT FOR FENCES, &c.

WE find the following directions for making a cheap paint highly recommended:—

Take a bushel of well burnt lime, white and unslacked; 20 pounds of Spanish whiting, 17 pounds of rock salt, and 12 pounds of brown sugar. Slake the lime and sift out any coarse lumps and mix it into a good whitewash with about 40 gallons of water, and then add the other ingredients, and stir the whole together thoroughly, and put on two or three coats with a common brush. This is a cheap paint. Five dollars worth ought to make the building look a hundred dollars worth better. This makes a coat that does not wash off, or easily rub off, and it looks well; while it will go far to preserve the wood. It is, therefore, especially adapted to the outside of buildings that are exposed to the weather. Three coats are needed on brick, and two on wood. If you want to get a fine cream color, add three pounds of yellow ochre to the above. If you prefer a fawn color, add four pounds of umber, one pound of Indian red, and one pound of lamp-black. If you want a gray or stone color, add four pounds of raw umber and two pounds of lamp-black. This will be more durable than common whitewash.

Here is another recipe, which forms a hard surface, and is more durable than common paint:

Take freshly-burned unslaked lime and reduce it to powder. To one peck or one bushel of this add the same quantity of fine white sand or fine coal ashes, and twice as much fresh wood ashes, all these being sifted through a fine sieve. They should then be thoroughly mixed together while dry. Afterwards mix them with as much common linseed oil as will make the whole thin enough to work freely with a painter's brush. This will make a paint of light gray stone color, nearly white. To make it fawn or drab, add yellow ochre and Indian red; if drab is desired, add burnt umber, Indian red, and a little black; if

dark stone color, add lamp-black; or if brown stone, then add Spanish brown. All these colors should, of course, be first mixed in oil and then added. This paint is much cheaper than common oil paint. It is equally well suited to wood, brick or stone. It is better to apply it in two coats; the first thin, the second thick.

DOMESTIC ECONOMY.

FEMALE EQUESTRIANISM.

EVERY lady should learn to ride; not at a mature age, when her frame has become exhausted by a sedentary life, and consequent ill health; nor even when, her school days being over, she is thought to have leisure for wholesome exercise; but in childhood, when her will is strong and her body obedient to it. Particularly in our large cities, too little care is given to the physical culture of young girls. Their minds are engaged, not often with energetic mental work, but with idle thought for dress and show, while no other exercise is taken than a measured daily walk, and occasional dancing and waltzing.

Where household labor is disdained, and no opportunity can be afforded for floriculture or any other agreeable out-door occupation, there is no substitute so good as horseback riding. But for the country girl it becomes indispensable. Not her health, perhaps, but her happiness demands it. No woman ever rides so well as one who from childhood has loved her pet colt. She has chased him, perhaps, for hours around a "ten-acre lot;" and when, his frisky mood over, she has been able to take him coaxingly by the mane and lead him to a mounting place, great was the triumph of her wild ride. And no training or care can give the freedom and skill of this youthful practice. When, at length, she is able to bridle and saddle him, her seat may be somewhat faulty, and her use of the reins awkward, but these faults are easily remedied, and are certainly atoned for by her freedom and fearlessness. Besides, no one can fully enjoy riding who does not both love and admire the noble animal which she rides; and the quick intelligence of the horse yields ready obedience to the hand and voice of a woman who has learned lovingly to control him. His affectionate nature yields to her the mastery, often more readily than to a strong power.

Well mounted on a strong, spirited horse—with a wide country before her—on a clear, cool day with a love for all the beauty around her, of the noble animal beneath her, and glowing with the bounding life within her, a lady capable of enjoyment is certainly prepared for it then. The first gentle pace of the horse starts the warm blood in her veins, and as both become excited, the glow tingles to the very finger-tips. The close-clinging to the horse, the slight reliance upon stirrup and bit and the generally light proportion of rider to steed, give a feeling of being possessed of the powers of new life, of riding upon the whirlwind, and yet controlling it with a word.

This combination of a sense of weakness and of power, as every woman knows, is her greatest delight, and is the secret of many an enjoyment which she attributes to other causes. If a quieter mood possess the rider, there is no such pleasant manner of strolling over a wide extent of country, otherwise inaccessible. The discoverer of new paths and openings in woods and hilly country, where momently changes are succeeding each other in the panorama, affords delights which are not attainable in any other way. Even hundreds of miles of travel are more pleasantly accomplished in the saddle than in any other manner, even by ladies; provided always that they be well attired and well mounted. Then the companionship of friends is infinitely more sweet under the exhilarating influence of active exercise, fresh air, and keen, physical enjoyment. What so gay as a party of high-spirited equestrians? The emulation of riders and horses adds a new element o enjoyment, while the beauty of every fair rider is enhanced not only by the glow of pleasurable excitement, but by the contrasts of color and form which each may present, in her habit and her horse. Companies of ladies and gentlemen, in full hunting suits, bounding in all the excitement of a race over a smooth stretch of road, or better still, over wide meadows, in eager chase, present one of the most beautiful sights imaginable. Of the healthfulness of this most delightful accomplishment too much cannot be said. But certainly its benefits must

greatly diminish when it is resorted to, merely to strengthen the body. If a lady be recommended to ride for her health, let her first seek for the *delight* of riding, for nothing is more tiresome than being heavily jolted in a lady's saddle, or more wearisome than being quietly ambled over the ground by a small, spiritless pony.

ON PRESERVING EGGS.

AT a late meeting of the Farmer's Institute in New York, a note was received from Mr. W. M. Brown, of Indiana, inquiring whether there is any way to pack eggs so as to keep them good from spring until the winter months? Upon this question the following discussion took place. The name of the first speaker is not given:

There are various modes of keeping eggs, none of which are quite successful. Sometimes eggs packed in water saturated with lime keep perfectly well, and sometimes they don't. Some persons say they can keep them in water saturated with salt, others keep them packed in fine dry salt; others in charcoal dust. If packed in sand and kept in a very cool cellar, they will remain through the year. They should always be packed small end up. The best way to preserve eggs is to store them in one of Prof. Nyce's Preservatories.

Prof. Smith Columbia College, said that the common way of preserving eggs in the North of Europe, and which appeared to be more effectual than any other mode he had ever seen was this: The eggs are placed in a barrel, keg, earthen jar, or any other suitable vessel, and then melted tallow, only just warm enough to flow, is poured in, filling the interstices, and thus hermetically sealing the eggs from the air, which appears to be all that is necessary for their perfect preservation. When wanted for use, they are easily obtained by warming the open end of the vessel to soften the tallow.

Solon Robinson.—I think lard or oil would answer the purpose; it would be more convenient. I have heard molasses recommended, and do not see why it would not answer perfectly.

Mr. Carpenter said he had found no difficulty in preserving eggs in fine dry salt. He packs them endwise, and about once a month reverses the ends of the casks, or rather box, with straight sides, so that a board and cloth or paper fits down and holds the contents in place when reversed.

Prof. Tillman gave it as his opinion that anything which would exclude air would preserve eggs. Recent experiments in France have developed the fact, that varnishing the shells destroys the value of the egg for incubation.

Mr. E. Williams said he had seen eggs perfectly preserved by packing in meal.

GREAT YIELD OF BUTTER.

MR. EDITOR: You say in yours of the 23rd ult., "Mr. Jonathan Pierce, of East Chelmsford, has a cow from which he made thirty-seven and a half pounds of butter in seventeen days."

You will have to try again, for Mr. Joshua Morse, Northbridge Centre, has one from which he made thirty-two and a quarter pounds in fourteen days. Who comes next?

Yours. T.

We learn that the above-mentioned cow was a pure bred Jersey.—[Ed.

FACTORY CHEESE COMPARED WITH PRIVATE DAIRY CHEESE.

The following remarks on the advantage of cheese factories are taken from a recent address by X. A. Willard, Esq., of New York, now in Europe, as the agent of the Cheese Manufacturers' Association:

Since my return, I have been met everywhere with the question, "Do they make cheese in factories in England?" They do not, and perhaps never will. For once, we are very far in advance of them if uniformity is required. I hear that there are indications that dairymen are about to withdraw their patronage from the factories I can assure you, gentlemen that a greater mistake can hardly be made by cheese-producers, if a foreign or healthy home trade is sought. I noticed private dairy cheese abroad, and I can assure you, that if the dairymen return to the old way of making cheese, they will ultimately come back again, willing for once to acknowledge they have made a mistake. Private dairy cheese was, as I saw it of the poorest quality in every respect; some defective in some respects, and some in others, as is the factory cheese, but much more so. The factories will ever accommadate three classes of producers—those having small dairies, those having very large dairies, and those that cannot make good cheese, and these

three classes constitute nine-tenths of all the dairymen, while not one in five of the remainder would be willing to make their own. But it is claimed that there is no difference in price for one or the other. I ask who are these private dairymen who are getting an equal price with the factories —who but the very best cheese-makers among you, having the right number of cows to have the right sized cheese? And how much do they owe to close observation to the factory system and adopting it?

HOW TO BREED TABLE POULTRY.

MANY persons, says the Field, object to Dorkings on the ground of the difficulty of rearing them on wet soils or in damp seasons, though at the same time they require for table use large framed, meaty fowls. The three desiderata of hardihood, large size and first class birds for the table can be most readily combined, if exhibition fowls are not required, by rearing cross-breed varieties. For example, if the Dorking stock is found too delicate, we should recommend the introduction of two or three dark Brahma hens into the run; the chickens hatched from them will be large, hardy, rapid growers, and furnish good table fowl. Two or three of the best pullets should be saved, and next year, if running with the Dorkings, will hatch some very first-class table birds that the best judges in the world can hardly distinguish from Dorkings when on the table. If preferred, Cochin hens may be chosen, but the result will not be quite so satisfactory. Other crosses that we have tried with great advantage are those between the Crevecœur and the Dorking. The chickens thus produced were of almost monstrous size, and of first-class quality as to whiteness of skin and sapidity of flesh; but they were undoubtedly very ugly as to plumage and combs. The La Flêche is also a very heavy bird, which is sufficiently hardy to be crossed with any large breed that may require fresh blood. Other crosses that may be named are Dorkings and Malays, Cochins and Crevecœurs, &c.

The objection often taken to rearing a lot of mongrels is more apparent than real. There is no necessity of keeping the birds so reared; they are bred for the spit and the pot, and these should be their destinations. If larger, hardier, and more rapidly growing fowls can be obtained by cross-breeding, there can be no valid reason for not employing this method. The most gigantic oxen at our prize shows, the largest and most easily ripened sheep, are constantly to be seen in the cross-bred classes; but no one would think of perpetuating the races. So with fowls, keep one stock pure, purchase a few hens of the kinds required to cross with your pure stock, and kill all the cockerels of the half-breed, and the result will be that, without deteriorating your pure stock, you will have larger, hardier, and earlier table fowls than those persons who obstinately cling to one pure variety only.

OIL AS A REMEDY AGAINST INSECTS.

MANY years ago we were interested in some experiments made by some medical students on the destruction of insect life by oil. The slightest drop of sweet oil, put on the bags of a hornet, beetle, bee, or similar thing, caused its instant destruction. We were told the breathing pores were closed by the oil,—and life was literally smothered out. In after life greasy water was always a favorite mode with us of destroying insects, —and we have repeatedly urged it upon the readers of this journal. Yet we are astonished to find how little the hint has been acted on. Almost every day we meet people who ask how to destroy this insect or that,—and our drawer is filled with similar inquiries; and to all the idea of grease or oil seem as new a one as if we had kept the matter a most profound secret.

Of the millions of people on this continent, how few are there who would not "give anything," as they say, to know how to keep away the cabbage fly from their seed beds,—yet about a tablespoonful of coal oil put in a common garden water-pot of water, spinkled over the seed-bed, when the little jumping beetle is noticed as having appeared, will instantly destroy the whole brood.

A correspondent of this journal recently gave us an article on the virtues of coal oil in killing scale insects. We have repeated the experiment on some Daphnes with entire success.

In short we have no doubt that coal oil, well diluted with water, is death to all kinds of insects, and there is no reason why it should not be in as general use as tobacco is for killing aphides—more valuable in fact because it can be applied in so many cases where smoke cannot.

One great point in favor of coal oil, is that it acts as a manure to vegetation, while dealing out death to insects. We have seen

cabbage beds nearly destroyed by the cabbage fly, have the whole crop of beetles destroyed almost instantaneously,—while in a few days afterwards the plants, as if by magic would cover the bed with luxuriant leaves.

We do not believe that the undiluted oil would prove injurious to the leaves, but such extravagance is unecessary, as the small quantity we have given is effectual.

No doubt the egg-plant fly, and all insects that can be reached by the oil, can be destroyed.

There is scarcely one of our readers to whom we are sure this hint alone will not be worth many annual subscriptions.

We may add that any oil is as good as coal oil,—but that being likely to be more easily obtained when wanted is recommended, also care must be used to keep the water in the pot stirred when used so that a portion of the oil gets out as the water runs,—otherwise the oil floating on the top of the water will stay there till all the water goes out and only the oil be for the last. For this reason a syringe, in many cases, will be preferable to the water-pot, as the oil and water will have a better chance of getting out.

To Make Tomato Wine.—Take small ripe tomatoes, pick off the stems, put them into a basket or tub, wash clean, then mash well and strain through a linen rag; (a bushel will make five gallons pure) then add 2½ to 3 lbs. of good brown sugar to each gallon, then put it into a cask and let it ferment as for raspberry wine. If two gallons of water be added to each bushel of tomatoes the wine will be as good.

Currant Wine.—To each quart of juice, (pressed out cold,) add three pounds fine loaf sugar, and as much water as will make a gallon. Fill the cask with this mixture, and permit it to work. Draw it off the same as cider, and bottle. Put in no spirits. Wine made in this way cannot be beaten for mildness and agreeableness.

Tomato Catsup.—Mrs. Page, in *Prairie Farmer*, gives her premium recipe, as follows:—Take ripe tomatoes, (the small red ones are preferable,) wash, but not skin them, and thoroughly boil one hour, and then put them through a hair sieve, and to one quart of juice add one tablespoonfull of cinnamon, one of black pepper, half of cayenne, half of nutmeg, one of good mustard, two-thirds teacupful of salt. Boil three hours and then to one quart of juice add one pint of pure cider vinegar. Boil half an hour longer; bottle hot and seal up. This catsup will keep for years and not "require shaking before using." A porcelain kettle should be used.

Pickled Tomatoes.—Take small, smooth tomatoes, not very ripe; scald them until the skin will slip off easily, and sprinkle salt over them. After they have stood twenty-four hours, drain off the juice, and pour on a boiling hot pickle, composed of one pound of sugar to every quart of vinegar, and 2 teaspoonsful, each, of cinnamon and cloves. Drain off the liquid, scald it, and pour it on them again, every two days for a week, and they will require no further care.

Short Cake.—Take ¼ cup butter, ½ cup lard, ½ cup pulverized sugar, and flour to make a stiff dough; roll thin and cut into small square cakes.

Johnny Cake.—Two eggs; 2 teaspoons soda; 4 tablespoons molasses. Stir these till light; then add 2 cups of buttermilk; 1 cup of sour cream; a little salt, and meal to make it a little stiffer than pancake.

Molasses Jelly Cake.—Three eggs; 1 cup of molasses (Sorgum is the best;) 1 teaspoon soda; beat till it becomes a foam, then add 2 cups flour.

Drying Unpared Peaches—Wash the peaches thoroughly, until the down is rubbed off. Cut them from the seed and lay them skin downward on earthenware or new tin. Heat them in the oven until they are scalded, not browned; then dry in the sun, or by the stove.

Drying Peaches.—In drying peaches successfully, so that the flavor may be well preserved, it should be done rapidly. If delayed or retarded until fermentation or discoloration takes place, both the quality and appearance will be inferior, and they will sell lower in the market where the difference between a good and bad article is understood. Artificial drying apparatus, so as to complete the process in a few hours will, therefore, be found best. We observed on the grounds of the Indiana State Fair, two different contrivances or inventions for effecting this purpose, consisting of a small portable house not so large as a common bureau, which might be placed in any part of an orchard, and be heated by a small quantity of wood or coal, doing the work rapidly, and excluding insects. One of them was the dry-house of Kuhns, Billings & Mitchell, made by S. K. Rahn of

Dayton, Ohio—from $30 to $40. The other Duncan's drying apparatus, made by Waymire, Stevens & Jount, of Dayton, Ohio, and about same price.—*Country Gentleman.*

To Seal Preserves.—Beat the white of an egg; take good white paper, (tissue is the best,) cut it the size you require, and dip it in the egg, wetting both sides. Cover your jars or tumblers, carefully pressing down the edges of the paper. When dry, it will be as tight as a drum head.

Nectar.—Take two pounds of raisins, chopped, and four pounds of loaf sugar, and put them into a spigot-pot; pour two gallons of boiling water upon them. The next day, when it is cold, slice two lemons into it. Let it stand five days, stirring it twice a day. Then let stand five days more to clear; bottle it, put into a cold cellar for ten days, and it will be fit to drink.

Orangeade.—Roll and press the juice from the oranges in the same way as from lemons. It requires less sugar than lemonade. The water must be pure and cold, and there can be nothing more delicious than these two kinds of drink.

PRESERVATION OF GRAIN.

It appears from a report recently issued by a French commission, that Dr. Louvel has successfully constructed an apparatus for the preservation of corn, meal and biscuits. It is of the simplest construction, and consists of a cylinder of sheet iron, formed so that it can be filled from the top and emptied from the bottom. Into this, in the presence of the commissioners, six months ago, a quantity of the finest quality of wheat mixed with an enormous number of weevils was put; the cylinder was then closed, and and the air withdrawn by means of a suction pump. On being opened the other day, the wheat was found in perfect condition, the weevils having been entirely destroyed without having touched it. The grain thus preserved was sent to Paris and sold as the first quality, and a little which was sown sprouted rapidly. The commissioners noticed that the grain had lost all traces of humidity, and remarked on the importance of this advantage in those years when harvest is reaped in wet weather.

About Melons, Squashes, &c.—In a paper published in Hudson in June, 1802, is an article on the culture of melons, squashes, cucumbers and other vegetables, which may not be amiss even in these more advanced days of agricultural science The substance of the communication is to the effect that what are denominated false blossoms on melons, cucumbers and other vines are simply the males of the species, and though producing no fruit of themselves, are indispensable to the proper development of the female blossoms—the ferina from the former being essential to the fecundity of the latter. As the nonproducing blossoms greatly out-number those from which fruit is perfected, and as they necessarily make considerable drafts upon the strength of the vines, the removal of a large portion of them will prove beneficial rather than otherwise. But care should be taken not to prune too closely lest the expected crop be diminished, if not wholly lost. It is asserted, and no doubt truly, that the method of planting melons, cucumbers, squashes and the like in close proximity, tends to the production of an inferior article in each variety, as the ferina from one variety falls upon and contaminates that of another—producing a less perfect article in each. The effect, in this case, is much the same as that produced by planting in close relation, several varieties of Indian corn—a mongrel crop, inferior in all respects to the unmixed productions of each variety—the least valuable variety generally predominating.—*Cor. Rural New Yorker*

COMMERCIAL REVIEW.

WEATHER AND CROPS IN NOVA SCOTIA.

THE season has been a trying one for the patience of the farmer. The weather has been well suited upon the whole for the growth of most farm crops, yet both seeding and harvesting times have, so far, been unfavorable, and much disappointment, delay and waste of time have been the result.

At the opening of spring in April, the season was a few days later than last year. During May the weather continued changeable, cold, dull and wet, and there was no great improvement till the middle of June. Thus the season fell later and later, and

there was but very little opportunity of putting in spring drops. The comparatively cold, wet weather, by which the whole of the spring was characterized, came to an end, as we have said, in June, and the third and fourth werks of that month fully made up, by clear skies and high temperatures, for the previous want of warmth. The soil completely desiccated, hot winds prevailed, and the grass fields began to cut premature beds aud to show a stinted growth. The closing days of June brought heavy rains, the grass fields resumed their aspect of verdure, and all our crops have been making luxuriant growth.

During July the weather continued changeable, a few days of warm, dry weather, alternating with dull foggy days, and heavy rain showers; and August, so far as it has gone, gives the same kind of weather, so unsuitable at this season of the year.

The Hay Crop.

So far as we have heard from correspondents throughout the country, the hay crop is very fair this year,—heavy indeed in the marshes, and although it looked thin at first on dry uplands, it has been gaining by a luxuriant second growth. But the weather has not been favorable for hay harvest. Haying commenced in Halifax county about the middle of July, later than usual, and although we have had pleasant warm weather since then, yet what with alternating fogs, showers, and gleams of sunshine, we have not had much really continuous clear hay weather. There will no doubt be some hay badly saved this season. In Pictou county losses are already reported. The marshes and meadows were in many places flooded by the copious rains early in July, more so than they have been at that season for many years, and the wind and sand carried down by the freshet settled upon the grass; subsequent rains have washed off the dirt pretty well, but still much of the marsh hay will be dusty. The weather being so wet in the central counties of the Province, it is feared that in Cape Breton island there will be much difficulty in getting in the hay in good condition this season.

Really good well-saved hay will bring a high price.

Grain Crops.

Grain crops have done well, and may be expected to give a large yield both in straw and grain. Probably smaller quantities of oats were sown than usual, and much was sown late in the season, but the copious rains have proved favorable to this crop, as well as to barley and wheat, where the latter has not been broken down.

Green Crops.

Potatoes show luxuriant tops everywhere, and will give a good yield, provided we have warm weather to dry the soil and ripen the tubers; but should the season continue wet for some weeks longer the potato crop will, no doubt, prove a failure. The plants are growing so luxuriantly that heat and drought are now required to ward off the much-dreaded "disease." No more suitable season could have been had for turnips. Wherever they were sown in time, and the land well prepared, they are doing well. The turnip is very apt to fail in this country, for some reason that is not very obvious, unless, indeed, it be poor cultivation or want of manure. Were our farmers to adopt the custom, now universal in Scotland, of invariably sowing their turnips with either bone-dust or guano, we should hear of fewer failures in the turnip fields, and see more turnip-fed cattle.

Fruit.

Early in the season the Apple Orchards seemed to be setting very well with fruit, but the changeable weather had an injurious effect in causing much of it to wither away, and afterwards some to drop. The trees, however, are growing vigorously; we have never seen old apple trees make such luxuriant growths of young wood as they have this season. Cherries are reported everywhere as scarce; but the trees, like apple trees, are shooting out in long growths of young wood. The unfavourable weather immediately after blossoming time spoilt our crops of currants and raspberries, in some p'aces; but in favourable localities there has been a fair, and indeed abundant, yield. Strawberries in heavy soils did remarkably well.

The Gardens.

Garden vegetables have grown with great luxuriance this summer, and although rather later than usual, are giving abundant crops. Slugs thrive too well, and give much trouble by eating off small plants newly set out, such as cabbages, lettuces, &c. In the flower garden, plants require at this season to be well tied up, as otherwise the rains and winds make sad havoc among them.

MONTREAL MARKETS.

FLOUR.—Extras and Fancies have not varied much in price, and, being only slightly in demand, our quotations remain pretty well unchanged, but prices are purely nominal. In Supers. there has been a rise of 25c to 30c per barrel. Welland Canal selling at the close of last week at $6.12½, now is held for $6.40, at which price sales have been made. Canada Flour, which was sold last week at $6.02½, has risen to $6.30 to $6.35. There have been several sales of strong Baker's flour at $6.80 to $7. Inferior brands not enquired for. There is no shipping demand, advices from England not offering any inducement. Bag Flour very scarce, and has realised $3.60 to $3.70; good samples are now held at $3.75. Sales of Rye Flour at $4.32½, and for good quality $4.35 is asked. Oatmeal—A round lot sold at $4.75 per barrel.

GRAIN.—There is no wheat offering, and prices are purely nominal; some small sales of U. C. Spring to millers at $1.35 to $1.37½; the new crop has not yet been brought forward, and from the steady rains we have experienced, we fear as far as Lower Canada is concerned, that it will turn out short and in a defective condition. Corn—There have been several sales of round lots, the last being 6,000 bus. at 55c in bond. Oats—No transactions; the old are all shipped, and the new crop has not yet come forward. Barley—The above remarks apply to this grain; some few lots have been offered on the street, but the quality is inferior, and the price paid is therefore no criterion.

PROVISIONS.—Pork is in good demand, and with the increased duty, Mess cannot be imported from the West to sell at a profit under $26; but to-day not over $24.75 to $25 cash could be obtained; the stock in all Canada not being over 5,000 brls. all sorts, should a good demand from the lumbering districts spring up, prices must rise, and some holders stand out for $27 to $27.50 for Mess, which is at present unattainable. Thin Mess dull and scarce, at $24. Prime Mess nominal at $21; and Prime at $20. There is no cargo.

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