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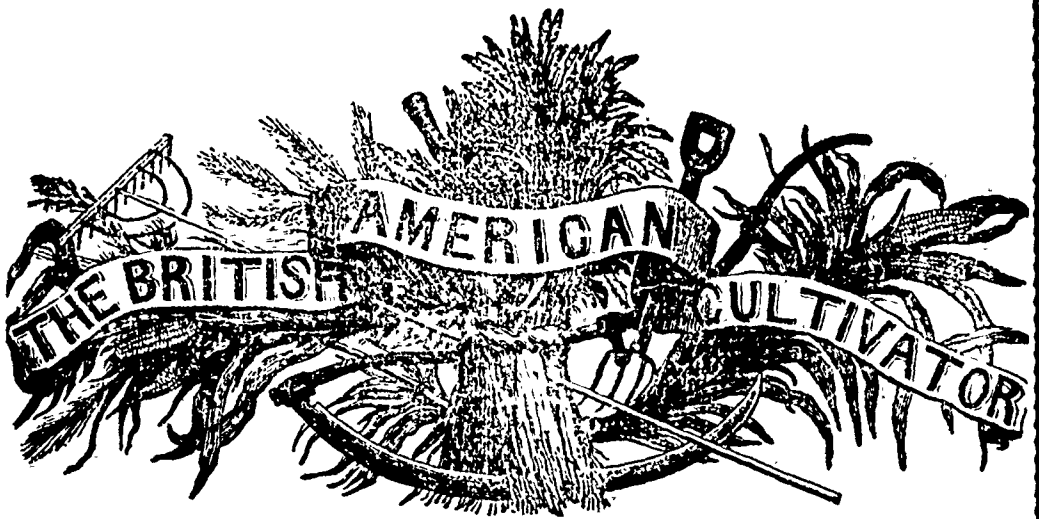
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"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

New Series.

TORONTO, MAY, 1847.

Vol. III. No. 5.

#### Hints in Season.

As this is one of the most busy and delightful seasons in the year, a few hints applicable to the practical operations on the farm, may not be deemed uninteresting to a large portion of our readers. By the middle of this month most of the grain crops will be sown, with the exception of barley and Indian corn, and the cultivation of the land for the root crops will then form the most important branch of labour.

*Indian Corn.*—If this valuable crop is not already planted, the sooner it can be done the better. The earliest varieties should be selected, and we recommend the eight rowed yellow as one of the best out of ten, which we ourselves have tried. The seed should be soaked in a strong solution of saltpetre, at least twenty-four hours before planting. A treatment of this kind which is both simple and cheap, will add to the produce of an acre of land, at least ten bushels of corn. There are many other steeps that are equally as efficient, but they are more or less liable to destroy the vitality of the seed, or are expensive. There are many methods of planting corn, but the easiest and most practicable is, to plant in hills three and a half feet apart, so that such hills will form

perfect squares, and the rows run parallel and at equal width both ways. It will be a very easy matter to cultivate and keep the corn crop clean when care is observed in planting, as the operation may nearly if not entirely be performed by the repeated application of the horse cultivator, which should be done transversely, or both up and down and crossways. One man and a horse will very properly attend to twenty-five acres of corn, and if an early kind be selected for planting, this valuable grain even in the northern districts of Canada, will come to full maturity, and in favorable seasons may be removed off the land sufficiently early for sowing fall wheat, and where this arrangement cannot be effected by ploughing the land late in autumn, it will be in an excellent state of culture to produce spring wheat. There is scarcely a possibility of manuring the land too liberally for Indian corn—after selecting a good article of seed, the almost only thing necessary to be done, to obtain a large product, are to manure liberally, and frequently cultivate with hand or horse hoe between the rows. Horse stable manure is decidedly the best for this crop, and where fifty tons of this manure are put on an acre of corn land, and the soil is of a

warm permeable nature, it is safe to calculate upon from ninety to one hundred bushels of marketable grain. Of course to get this quantity, the land will have to be well cultivated. The most productive crop of Indian corn or maize we have any knowledge of, yielded one hundred and twenty bushels per acre, and this great yield cost the proprietor a very trifling sum, compared with the amount of labour expended. It was planted upon a piece of inverted sod, that had been in pasturage for upwards of twenty years, and previous to ploughing, 30 two-horse waggon loads of horse manure were spread broadcast upon the surface. The sod was ploughed neatly about the middle of April, and directly afterwards rolled and allowed to remain in that condition until the first week in May, when it was thoroughly harrowed. The seed was planted on the 18th of May, at the rate of 4 grains in the hill, and a pumpkin seed in every third hill, the rows being three and a-half feet asunder both ways. This valuable crop has been very much neglected in Canada, but as the potato crop is now considered by many, a doubtful one for the present, at least, we are of opinion that the maize plant should be more extensively cultivated. The State of Ohio is estimated to have produced the past year, the enormous quantity of forty millions of bushels of Indian corn, and the province of Canada with nearly an equal population and territory, did not produce a hundredth part as much. Whilst the estimated product of corn was so great, it might be supposed that the farmers of that country could not grow large quantities both of corn and wheat, still we find that one million of acres of wheat was harvested, which is supposed to average twenty bushels per acre, and which doubtless is not an exaggerated estimate of the wheat crop of Ohio in the past season. We mention this fact to show that *both* Indian corn and wheat may be advantageously grown in succession, and we see no reason why Canada could not derive a large degree of profit by growing the maize plant, to supply the British market. It is daily becoming well understood that this is one of the most pro-

fitable and productive crops (if not actually *the most so*) of which we are possessed. It is a good preparative for wheat, and is excellent for food for man and other animals; it yields a very large return, and brings a good price in the market; and, even from its very stalks, can be produced excellent sugar—or they are good provender for cattle, if carefully cured.

As a proof that this valuable plant is susceptible of general and profitable cultivation in Canada, we would here mention that, on the property of Captain Creighton, Narrows, *North Shore* of Lake Simcoe, a very large and productive crop of American white flint corn was grown last summer—samples of which may be seen at our Agricultural Warehouse; and also that a friend of ours on the Island of Montreal, had a large crop of this grain, which yielded upwards of 100 bushels of shelled corn to the acre. If corn can be profitably cultivated in these northern latitudes, it certainly might be more extensively grown in the southern portions of the province.

*On Root Crops.*—We insert the following practical hints from our able contemporary the *American Farmer* :—

“As the Potato crop, so much relied upon in former years, has proved so precarious an one, as not to be relied upon, the husbandman should, in order to assure himself of success, resort to the growth of other Root-Crops—and as the time has arrived when *Mangel Wurzel, Sugar Beet, Parsnips and Carrots*, should be put in, we will call the attention of all to the subject; and as the two first are cultivated precisely alike—being members of the same family—we shall treat them under the same head.

*Mangel Wurzel—Sugar Beet.*—The soil best adapted to the growth of these roots, is a deep fertile loam, which should be assisted, by from 15 to 20 *double horse cart-loads of well rotted manure, or virgin mould from the woods*. Spread your manure evenly over your ground, then plough your ground as deep as your team will permit you to sink the share, taking care to leave no banks—then *harrow finely, and roll*. This done make your drills north and south *two feet apart*. When the plants come up and have attained a few inches in height, they may show two or three distinct

heads; all of these but one must be pinched off. If more than one head should be left, the roots will be scragged, and not produce so well. When this operation shall have been performed, run your plough through the rows, turning a furrow from the plants, and returning it again, so as not to cover them. When the plants are from 4 to 6 inches high, thin them out so as to stand about 8 or 12 inches apart in the rows. After thinning them out, run the cultivator through the rows, near to the plants, but not touching them; let hoemen follow to remove the weeds and grass between the plants. Repeat these operations twice, at intervals of two or three weeks, as the condition of the ground may require, and all the cultivation necessary will have been performed.

When we first commenced the cultivation of these roots, we dropt the seed from the mouth of a bottle—but afterwards bought a cheap drilling machine, which greatly facilitated the operation, and lessened the cost of planting.

Both of these roots are excellent to fatten stock with or as food for milch cows—while the latter is among the best of table beets. After the leaves have attained their growth, they may be pulled every two weeks without injury to the root, care being taken not to remove the crown leaves. The leaves are excellent food for milch cows, and highly secretive of milk, and tend greatly to increase the quantity, and improve the quality of the butter. Soak the seed 6 hours in hot water, and dry in Ashes or Plaster. Quantity of seed per acre, 3 lbs.

*Parsnips.*—This excellent and justly appreciated table root, has been too long neglected in field culture. It is easily grown, makes a highly nutritious food for milch cows and swine, and is, withal, very productive.

The Soil, its preparation, and the manure should be the same as for beets.

The ground being prepared and rolled, lay off your drills 2 feet apart, 2 inches deep, then drop your seed 3 or 4 in. apart and cover. When this is done, pass the roller over the rows, or compress the earth with the back of your hoe. If you have the proper kind of drill, you may make the drill drop the seed and cover, by the same operation, and thus save, both in time and expense.

*Preparation of the Seed.*—Pour water over them, heated to nearly boiling heat—let them soak six hours, drain off the water and dry them in plaster or ashes, when they should be drilled in.

*Culture.*—When the plants have come up, and have attained 4 inches in height, plough between the rows, throwing the furrow from the plants, and back again, taking care not to cover them, let persons with hoes follow to relieve such plants as may be accidentally covered, and cut up the weeds between them.

When the plants are 6 inches high, thin them out so as to stand 8 inches apart—then give them a working with the cultivator and hoes. Repeat this thrice in the season, at intervals of two weeks apart, and your crop will have been made.

*Quantity of Seed per Acre, 1½ lbs.*

*Carrots.*—There are two kinds of Carrots adapted to field culture—the white and the orange. The soil adapted to them, the manure and preparation and culture of the soil, are precisely the same as in the case of Parsnips, with this difference—the white Carrots, when thinned out, should stand 6 inches apart—the orange ones 4 inches.

The following estimate of the cost of cultivating an acre of carrots, as well as the value of the products, made by Mr. C. B. Stuart, of Rochester, New York, will throw light upon the value of the crop:

His carrot crop averaged 600 bushels to the acre. On some portions of his muck soil (manure with cow manure and leached ashes,) they were in many instances 14 and 15 inches in circumference, 27 and 30 inches long, and produced at the rate 1200 bushels to the acre. They were drilled in by machine, in drills 1 foot apart, and the carrots thinned to 1 every 4 or 6 inches in the drills. They were weeded by hand at the cost of \$5 an acre, for three times weeding, and pulled and topped for 2 cts. a bushel ready for the cellar. 30 bushels was about a day's work for each of the laborers.

His carrot crop cost him

Per acre for ploughing and preparing land,	\$5 00
“ for seeding, including seed.....	4 00
“ for pulling and covering.....	12.00
“ for interest on land.....	4.00
“ for weeding.....	5.00
	<hr/>
	30 00

#### RECAPITULATION.

600 bushels of carrots, at 20 cts per bush.	120.00
Deduct cost of cultivation, &c.....	38.00
	<hr/>
Profit on the acre.....	\$90 00

The cost of the cultivation was necessarily enhanced by the width of the rows being too narrow to admit of any other than hand cultivation. Had the width been sufficient to admit of the cultivator, the cost of culture would have been much lessened, while we do not think the product would have been decreased.

Carrot seed should be rubbed between the palms of the hands, before being soaked, preparatory to sowing.”

## Maple Sugar and the Canada Farmer.

When the first number of the above paper was published, "we hailed its birth as an ally," and as such wished it success—believing, as we yet do, that there is ample room for both it and the *Cultivator*, especially when the cheapness at which they are furnished is taken into view—but its conductors have not at all met us in the same friendly spirit. In their March number they have put forth strictures on our management, which, we think, might as well have been omitted. Our observations on sugar making, are of course open to criticism of a fair and legitimate kind; but surely these conductors cannot (as they do not) boast of professing much "comprehension" when they say, that as Canada does not export to the Southern States, they "cannot discover the point or meaning" of our statement, that if Canada did not export a surplus of wheat "the import merchants would lose" (they print the word loose) "an important item of export to place to their credit in the markets from whence they draw their supplies of sugar, &c." It is easy to be seen that our meaning is, that if we have no wheat to export, we have no return of cash wherewith to purchase sugar. But the remarks of the *Canada Farmer* are, doubtless unwittingly to their authors, quite against their own line of argument, for if we do not export to the markets from whence we get our supplies of sugar, and there be, as they say, "no reciprocity in the matter," i.e. if we have to send out hard cash for the large quantity of sugar we require, is that fact not the very strongest and most prominent argument in support of our statement, that if we can supply ourselves by the production of sugar at home, it is as valuable an interest to foster and encourage as that of wheat, i.e. of such an extra supply, over and above our home consumption, as would pay for that sugar if purchased abroad? To every one who viewed our remarks in a candid spirit, such was readily understood to be our meaning.

From our proposition, that the proportion of wheat the production of Canada, "which we can export, would fall short, in a series of ten or fifteen years, of supplying the country with sugar,"

1st. A detailed view of the quantity of sugar imported into Canada in 1845, as follows:—

Raw or Muscovado,.....	7,722,632	at 5d. per lb.....	£150,966
Refined.....	1,736,502	at 8½ l. do .....	61,500
Crushed Loaf,.....	1,235,135	at 3 l. do .....	34,738
Molasses,.....	4,524,939	at 2d. do .....	37,600

£284,907

these editors entirely dissent—and very cunningly, but certainly most unfairly, refer to "the Custom House returns for the Port of Toronto, for the year ending 5th January, 1847." We are all, however, aware, that the last has been an isolated, an unusual year in the export of bread-stuffs,—and in the discussion of a subject of such vital importance as that before us, we are neither to be tied down to one year nor to one port. We spoke of a series of years, therefore, in fairness, let the returns for several previous years be taken as a standard to decide between us and the *Canada Farmer*, and we will find that there was imported into Great Britain, of wheat from the British colonies,

In 1836, none,  
In 1837, none,  
In 1838, none,  
In 1839, 27 quarters,  
In 1840, 8192 quarters.

In five years, 8219 quarters, or 65,752 bushels. And that the imports from Great Britain into these colonies were, in

1836, 64 055 quarters,  
1837, 99 522,  
1838, 67,368,  
1839, 813,  
1840, 479.

In five years,..... 322,242 quarters, or  
1,575,936 bushels,

From which }  
deduct exports } 65 762 "  
as above, }

and we have,..... 1,792,184 bushels, being the excess of our imports over exports—so that in this series of years we had no surplus wheat to pay for sugar. But even let us take the year 1845, which was a very favorable one in the way of exports, and consequently, most adverse to our proposition, and therefore not one out of almost all the other years, we might be called upon to choose.—but we do so, because we wish to arrive at the truth, and to give, not a prejudiced or one-sided, but a fair and candid statement of facts; and moreover the returns for that year are complete, and we have them quite at our hands—we therefore proceed to lay before our readers—

And 2nd. Of the Wheat and Flour exported and imported into Canada, in the same year:—

Exported	}	Flour.....211,093 barrels, at 25s.....	£263,886
		Wheat ...313,562 bushels, at 5s.....	78,375
			342,261
Imported*	}	Flour...50,255 brls. at 20s.....	£50,255
		Wheat 46,250 bush. at 4s.....	9,248
			59,503
			-----
		Value of Wheat and Flour actually exported in 1845,.....	£282,753
		Then take the value of Sugar purchased, as above,.....	284,904
			-----

We have, even in that year, of excess of money paid for Sugar, above that actually received for Wheat and Flour exported... £ 2,145

Our statement was, and we firmly adhere to it, notwithstanding the would-be thunder attempted to be hurled at us, "That in a series of ten or fifteen years, the wheat which we have exported would fall short of supplying the country with sugar." We have been at much pains in making up the above schedules, which we think may be confidently relied on, as they are framed not only from the only official document which has been laid before the public, shewing the exports and imports of Canada, but they are moreover founded on information personally acquired by us from several of the most intelligent mercantile gentlemen in Toronto,—all which, (as well as the comparative statement on p. 136,) be it known to the Editors of the *Canada Farmer*, were arranged before we composed any part of the article upon which these editors have made assertions so groundless (and perhaps many will think so ungentlemanly,) as that our "conclusions" are "wholesale," and "drawn from premises so unsound, or rather from no premises at all."

In many of the years composing the 10 or 15 bygone, we did not export any wheat at all,—but during these same years, we imported as much sugar, and paid out as much cash as we do now, in proportion to the number of our population. And we ask first, from what source was that money derived? and second, did that money, when paid away, do us any service? We answer, first, from means that might have been profitably expended in producing sugar and other agricultural products at home; and, second, when our money was gone, we knew it not again, in any shape.

\* Besides what was imported at ports not enumerated in the Inspector General's Report, and of which, consequently, we have no account.

We trust that our readers are amply satisfied that we have, as the lawyers say, *made out our case*,—and we therefore confidently leave it to them and the public candidly to judge, whether our authentic and well-digested information, or the crude, hypothetical and random statements of the learned Editors of the *Canada Farmer* are most to be relied on, and to which ought most properly to be applied their own epithets of "drawn from premises so unsound, or rather drawn from no premises at all." There is an old, but very trite saying, "Let the shoemaker stick to his last,"—which as to literary compositions may be aptly turned into "Let no man write on a subject upon which he is not well informed." We frankly advise these editors in future, especially when they would attempt to make any comments on our productions, to keep this old adage before their eyes.

*Blandy's Wash for Fruit Trees.*—We certainly believe there is nothing so effectual in destroying insects and moss on trees, and imparting health and vigour to the trunks and branches as Blandy's Wash, and we advise fruit growers generally to give it a trial.

*Recipe.*—Take three gallons of ley from wood ashes strong enough to just float an egg;  
One pint of soft soap;  
One quarter pound of nitre, (salt petre);  
One handful of common salt.

The nitre should be dissolved in warm water, then add the salt and other ingredients, and stir till thoroughly incorporated. Apply it to the trunks and large branches of the trees with a common painter's brush. [Note.—If applied to very young branches, or the leaves, the wash may prove injurious, owing to the strength of the ley.]

—Ohio Cult.

## The Canadian Agricultural Societies.

These highly useful Institutions have ever been favorably regarded by us, and we have repeatedly urged all ranks of the Canadian farmers to unite their efforts in sustaining them by contributions, and by exerting their influence in every possible manner that would be calculated to promote this laudable movement. Among the means suggested by us that should be employed by Agricultural Societies, to accomplish the objects for which they have been established, is that of efficiently supporting the agricultural press. In many instances this plan was adopted, and to some extent answered the expectations of the parties who were instrumental in carrying it into operation; but after giving it nearly five years' trial, the Conductor of this magazine has come to the conclusion, that the cause of Canadian agriculture and general improvement, require a more certain and efficient system of organization to get its claims brought before the public than that hitherto put in practice. To show a willingness to devote a share of time and talents to the cause of our country's prosperity, is the duty of every patriotic mind;—the bent of some persons' minds might lead them to advocate certain opinions and operations, which to them would seem wisely calculated to cure the maladies subject to frail human nature and mankind and the world in general—whilst others would advocate, with equal zeal and ability, a course diametrically opposite. The one object we feel warmly attached to is—Canada and her Agricultural and GENERAL IMPROVEMENT.—These are the text words that shall receive a large share of attention at our hands; and to convince, if possible, our numerous patrons and the public in general, that we are not disposed to be satisfied with half measures, we would here state, for their information, that we shall have a GENERAL AGENT in each District of Canada, whose duties will be—to get subscribers to our publications—to supply the back volumes—to get advertising patrons—to take orders for all the improved agricultural and other machin-

ery that we have on sale or shall be instrumental in introducing into Canada—to solicit, at the hands of all classes who desire the prosperity of their country, to become members or patrons of the Agricultural Association for Upper Canada—to bring the Agricultural College which is about being established in the neighbourhood of Toronto, before the attention of all classes, and to aid in carrying this Institution into operation—to both write original articles for our publications, and to induce able and practical correspondents to write for our columns, so that both publications may be well-stored with spirited and instructive original articles, written by Canadians. These are the duties of agents, and we doubt not but that much good will result to the country through their efficient co-operation.

## BUCKWHEAT.

We have lately had some enquiries made to us regarding the uses to which this grain are chiefly applied, and the soils best suited for, and the proper mode of cultivating it.—As the season is now at hand in which it ought to be sown—if attempted at all—which, however, we by no means recommend, if wheat, barley, or Indian corn can be cultivated to advantage,—we now proceed to give a few details, first, of the soil on which it ought to be grown, with most advantage to the farmer, and second, of its uses.

*Soils.*—Buckwheat is a plant of a hardy kind, which throws out broad leaves. It consequently derives much nourishment from the atmosphere, and can thus be grown on the very poorest or driest soils. Plaster is known to be well adapted for being applied on sandy land,—and if buckwheat be raised on sand, and plaster applied copiously as a top-dressing,—much of the ammonia which is floating in the air during summer, is thereby attracted, and a crop made available, where nothing better can advantageously be attempted. Indeed, poor soils are best fitted for the cultivation of this plant, when good quality of grain is desired, as on

rich soil it is apt to grow too luxuriantly, and to be laid down by its own weight—to produce plenty of straw, but it is deficient and poor grain. On exhausted soils it may therefore be cultivated, for ploughing down as a manure, with some advantage.

*Quantity of Seed.*—Five to six pecks per acre are amply sufficient. About the 10th of June is a proper time for sowing; but it is believed that it will come to maturity if sown any time during the month of June, which is an advantage it has over most of the other cereals. For ploughing down, it may be sown even in the beginning of July.

*Its Uses.*—This plant has been cultivated in some parts of the old world for a very lengthened period; and it is known almost in every part of it. In some countries it has met with very little favor, while in some parts of continental Europe, it is one of the chief articles of food used by the inhabitants. Its leaves and stalks are useful as provender for cattle, and its grain is well adapted for feeding poultry, who thrive well on it. Cows relish it, and give a good supply of milk when partly fed on it. To horses it is generally given in a bruised state—and in that way some people allege it will go farther than oats. On these points we are somewhat sceptical, and would give the preference to oats or Indian corn over this grain. One of its uses has already been hinted at, viz: ploughing it down as a manure. This ought to be done when it comes into bloom in July, when the sap is still in the leaves; but if you are a lover of bees, you may perhaps be inclined to delay your operations till the blossom is nearly faded—as bees are known to be fond of, and to derive much honey from, the flowers. These, however, bloom and fade successively for a long time.

The flour of this grain, when used as food for man, is generally made into cakes—the mode of preparing which is already described in the *Cultivator*. These cakes are relished by some for a change, but are not at all to be compared to those made from fine Indian meal.

An objection to the cultivation of buckwheat is, its great tendency to grow spontaneously year after year, in the soil, when once introduced, and the consequent difficulty and trouble of eradicating it from among other plants.

#### CANADA FARMER AND OURSELVES.

In the April number of the above paper, the *learned editors* have thought proper to make *three* most unwarrantable attacks upon us; and indeed their short career has been pointedly marked with a factious spirit of opposition to the conductor of this magazine, which strangely and strongly contrasts with the spirit which we have, both in private and public, manifested towards them. For the information of these editors and our readers, we would state, that we print an edition of Eleven Thousand copies of the *Cultivator*, and as it has now become a Standard Work, we do not feel disposed to pollute its columns or annoy our readers with a newspaper controversy, and shall publish nothing but substantial and interesting information, which may be read with as much interest and profit ten years hence as at the present time. We beg also to refer these editors to the advice contained in another column of the *Cultivator*—and with that remark *we have done with them*.

#### Hall's Patent Brick Machine.

These machines are now on sale at our Agricultural Warehouse, and may be seen in operation at Mr. St. George Scarlett's brick-yard, five miles west of Toronto, and also at the yard of Mr. Freed of Dundas, and Mr. Falkner of Hamilton. There are seven of them employed in Montreal, and three in Quebec, all worked by Mr. Adams. They fully equal the high character given them by our contemporary the *N. Y. Farmer & Mechanic*. They will mould in a most expeditious and perfect manner, both draining and floor tile; and one man can mould in a day of 12 hours, from twelve to fourteen thousand bricks. Brick manufactured by this machine has a smoother surface than even stock brick, and will command the highest price in the market. Persons desirous of purchasing, will order through us or our agents. Price, £51 5s. cash, or approved paper due in 90 days from date.



## COMPARATIVE STATEMENT

Of the Expenses and Returns from 10 Acres of Wheat on a Clover Ley, and of the Cost and Returns on 3000 lbs. of Maple Sugar, on average years for both.

WHEAT:			SUGAR:		
	£	s. d.		£	s. d.
Rent of 10 acres, at 10s. per acre	5	0 0	Cost of 2 boilers,.....	5	0 0
Ploughing 10 acres, at 10s per acre...	5	0 0	" 800 noggings, at 1s. .40	0	0
Seed wheat, at 1½ bushels per acre,			" Sugar-house,.....	5	0 0
15 bushels at 5s.....	3	15 0		50	0 0
Sowing wheat, 10 acres.....	0	6 3	Interest on £50, at 10 per ct.	5	0 0
Harrowing twice, at 2s. 6d. per acre...	1	5 0	Wages of 3 men making su-		
Rolling, at 1s. 6d. do.....	0	15 0	gar, one month, at £4 per	12	0 0
Cutting, at 3s. 9d. do.....	1	17 6	month.....		
Binding, at 3s. 9d. do.....	1	17 6	Conveying 3000 lbs. sugar to		
Shocking, at 1s. do.....	0	10 0	market.....	1	5 0
Drawing home, at 10s. do.....	5	0 0			
Thrashing 30 bush. at 6d., 15s. per ac.	7	10 0	Cost of production of 3000 lbs. sugar...	18	5 0
Winnowing and putting into bags, at			Returns on do. at 40s. per 100 lbs.....	60	0 0
2s. 6d. per do.....	1	5 0			
Conveying 300 bushels to market, at			Profit on sugar,.....	41	15 0
5d. per bushel.....	6	5 0	Profit on wheat, per contra.....	29	3 9
Allowing value of straw against interest of outlay for thrashing and winnowing machines, deterioration of soil, &c.			Difference in favor of sugar cultivation,	14	11 3
Cost of production of 10 acres of wheat at 30 bushels per acre,.....	47	16 3	This calculation is made up on the supposition of 30 bushels being an average crop of wheat, and 5s. per bushel an average price. We have no doubt, in coming years, on account of the very great encouragement to competition in the corn trade given by the opening of the British markets, that such price will not be sustained.—Whereas, we hold, that sugar, in place of falling will at least maintain its present price, nay, probably will exceed it. In both views, therefore, the sugar-bush ought to be attended to, and in no case unnecessarily destroyed.		
Returns on do. at 5s. per bushel.....	75	0 0			
Profit thereon,.....	£27	3 9			

## Scientific Agriculture.

## Buying Land.

"You know very well," said Science, "how your neighbor, old Mr. Stubborn, went into the next State to buy a farm. The owner knew what the farm was, and advertised it in spring time, when he expected damp weather. I advised Peter to take me with him to view the strata of rocks below, and to analyze the soil on the surface; to see how it laid for draining, and what aspect it presented to the atmosphere. I told him I could save him my expenses many times over. But Peter scorned my advice—he thought he had worked more land than I had, and was as good a judge of land as any man in the States; and he set off, muttering something about 'not letting book-worms make money out of him.' He walked carefully over the farm—it looked green and flourishing, and not swampy even in that damp wet weather. He was delighted with it, and gave forty dollars an acre for three hundred acres. He paid his twelve thousand dollars and took possession. But in the summer time as I passed that way, I found that so much praised farm burnt up almost with drought, and its vegetation droop-

ing and panting for moisture, which the soil could not supply! Peter had bought a light sandy soil, laying upon what we call, geologically, a coal formation, with a pretty decided slope eastward. I took a little of the soil and analyzed it, and showed what it contained. In one hundred parts there were about eighty-three of lime, three of oxide of iron, one of potash, one part of phosphoric and carbonic acids, and four parts of vegetable and organic matter. Now, I said, the soil will be beautifully productive in wet weather, but will be parched in dry weather."

"Ah," he said, "that was how I was taken in, I saw it in a wet spring season"

"It," I rejoined, "you had taken me with you, I would have taken a handful of this soil from various parts of the farm and would have told you exactly what it contained, as I do now. I would have told you that sand, which predominates here, cannot retain moisture which flies off; nevertheless, I would have told you that in certain positions he soil might be made fruitful, if it laid upon a faithful geological formation, and with a moist atmospheric aspect. I should then have examined the geological strata here, and have told you it was on a coal formation, consisting of beds of limestone and blue shale, near the surface,

which generally underlays the worst lands—and sloping so rapidly towards the east, the moisture would drain away through the sands and down the slope, while the east wind, the most drying and piercing of all winds, would blow with its keen droughty breath into the sandy soil, driving out that moisture which had not drained away; that in summer your crops would be impoverished, and in long droughts probably would not grow at all. I could have shown you all this, and you would have known that the farm was of small value, and saved your money. Your ignorance has caused you to throw away as much as you have made in many years of hard work.”

—*Saturday Courier.*

#### Mode of cultivating Premium Crops.

**Indian Corn.**—Jabez Burrows, of Chautauque county, N. Y., obtained a premium for a crop of 114 bushels and 32 pounds of shelled corn grown on one acre. This crop grew on what had been an old pasture, which was turned over the latter part of May; it was then rolled, and twenty wagon loads of barn yard manure spread on and harrowed in; it was marked out in rows three feet apart one way, by fastening four chains to a pole carried by two men; it was planted on the last day of May; in hills sixteen to eighteen inches apart in the rows, three kernels to a hill, of eight-rowed yellow corn. It was hoed twice, and harrowed, (number of times not stated,) between the rows. The yellow eight-rowed corn was chosen for planting in preference to the “Brown corn,” so called because the former was thought to be earlier. The corn was weighed at fifty-six pounds to the bushels, and the cobs weighed 14 pounds to the bushel of shelled corn.

Lewis B. and Edward A. Powell, of Madison county, N. Y., received a premium for a crop of 105 bushels and 25 pounds from an acre. This crop grew on land which had been pastured for six years previous—the soil gravelly. It was plowed the first of May, harrowed and furrowed for rows, six to the rod, (or two feet nine inches apart.) The corn was planted on the 7th of May, in hills 18 inches apart in the row. Seventeen loads of manure (quantity to the load not stated,) had been put on the ground the previous November. The corn was hoed three times.

Benjamin Enos, in the same county, obtained a premium for a crop of 111 bushels and 52 pounds on an acre. This crop grew on land which had been mowed for the last five years—without manure during that time—the soil gravelly loam. The whole lot in which it grew contained two and one fifth acres. In the fall of 1845, 20 loads of manure were put on the lot, and left in large heaps; and in the following spring 80 loads more of coarse manure were put on, and it was all spread and plowed in about the first week in May. After plowing, 80 loads of fine manure from sheep-sheds, were spread on the field, and it was then thoroughly harrowed. It was furrowed slightly for the rows, three feet apart, north and south, and

the hills made at distances of fourteen inches in the row. It was planted the 18th of May, with the “large white-flint eight-rowed corn.” A cultivator was passed through the rows, as soon as the corn was large enough to follow the rows, and it was hoed, and two bushels of plaster applied per acre. It was also worked with the cultivator, and hoed about the 12th of June and on the 7th of July.

—*Alb. Cult.*

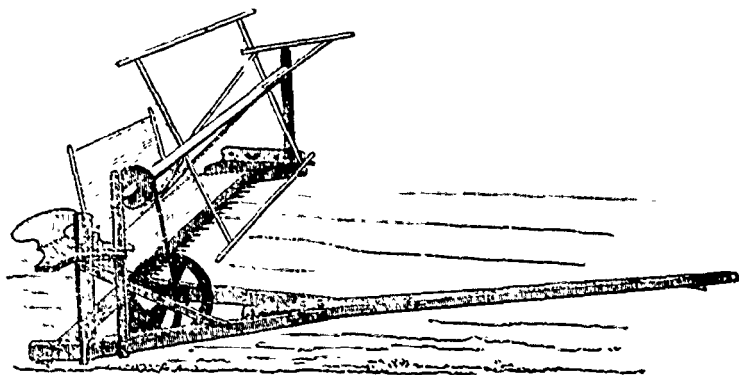
**PITT'S GRAIN CHOPPERS AND GRINDERS.**—These machines are manufactured in this city, expressly for us, and are sold at the Provincial Agricultural Warehouse, at the very low price of £10 each. With the power of two horses they will each grind 200 bushels of grain per day in a most perfect manner for feeding stock. They can be set to grind coarse or fine to suit the taste of the parties using them, and be so arranged that the quantity ground may be increased or lessened at pleasure, with a very slight alteration. They are not likely to get out of order, and if they should by any accident, it will cost but a trifling sum to put them in complete repair.

It would be a difficult matter to say too much in favor of these excellent little machines—suffice it to say, that they will prove a great acquisition to the agriculturist, and must, when brought into general use, cause a great saving of provender to the country. We have put them to the test in grinding Indian corn (with and without cob,) peas, barley, and oats, and we have no scruple in saying that they are the most efficient machines we have any knowledge of, when the trifling sum they cost is taken into account. One of these machines would be sufficient for four or five farmers; and with proper care it would last for a period of twenty years.

**To take Paint out of a Dress.**—When fresh, (having wiped off as much as you can,) make repeated applications of spirits of turpentine or spirits of wine, rubbed on with a soft rag or flannel. Ether also will answer, if applied immediately. When the point has been allowed to harden, nothing will remove it but spirits of turpentine, rubbed on with perseverance.

**Cure for Inflamed Eyes.**—Pour boiling water on elder-flowers, and steep them like tea; when cold, put three or four drops of laudanum into a small glass of the elder-tea, and let the mixture run into the eyes three or four times a day. The eyes will become perfectly strong in the course of a week.

## IMPROVED REAPING MACHINES.



The above engraving is a correct drawing of the Reaping Machine alluded to in the April number of the *Cultivator*. These machines are warranted to reap in a perfect manner, from 12 to 15 acres of heavy grain per day, with the power of two horses, and the aid of one man and a boy. The reel on front of the machine, is used for bringing the grain under the sickle; and the person who attends the machine, draws the grain off with a rake, in bunches averaging a sheaf each. It requires an active strong man to attend the machine, and with a little practice, the grain may be laid perfectly straight, without making it very hard or laborious work for the operator. We recommend those machines with much confidence, and we would advise farmers in each neighborhood, to club together in purchasing them. Terms—£20, cash; or approved endorsed paper, coming to maturity in four months' alter date.

Artichokes.

BY H. MORRIS.

The mode of raising is to plow your ground and prepare it in the same manner as for planting corn. Furrow it off  $4\frac{1}{2}$  feet each way; then cut them between every joint, and plant two joints in every hill, covering them the same as corn. They should be plowed till about 18 inches high, and then the ground leveled well with a harrow: this completes the culture.

When the frost kills the tops, turn in your hogs; do not neglect to salt them well and constantly, and they will fatten very fast. Calves do very

well by following the hogs, and eating what they root up and leave

Good potato land is best for them. It takes about two bushels before they are cut, to seed an acre. They should be planted very early in the spring, and about every third year, as they will come up sufficiently on the same land for two springs after planting; but it is best to level the ground every spring.

I cannot say exactly what they will produce per acre, but I have been informed on good authority that they will yield from 400 to 500 bushels per acre. I measured 50 bushels that I grew on a piece of ground four rods long and three wide, of tolerable good upland, a little manured.

A rather wet season suits them best, and a late, warm fall.

Hogs should be taken off and fed on corn two weeks previous to killing, which makes their fat as hard and solid as if they had been fatted entirely on corn—*Pra. Fur.*

Mr. W. H. Merritt, in the *Hillsboro Recorder* says, "The best mode of culture is to place them in drills four feet apart, and about a foot apart in the drill. They require one or two workings, and will yield 1200 bushels to the acre, upon rich light soil. It is said they will yield well upon thin soil, as they derive much support from the air.—Three bushels will plant an acre. The hogs in winter, after being turned in upon the plot, and feeding upon them, will leave enough to set the ground in good condition for another crop. They soon shade the ground and prevent other vegetation from

springing up, and will suffer less by being shaded by fruit trees than any other plant we can raise." [They can thus be cultivated with advantage in orchards. In regard to food for cattle and pigs, they are a good substitute for potatoes, but we doubt their being so as food for human beings. Pigs turned in upon the lot, and allowed to feed on the roots as above described, require no water, and consume but very little corn, while put up for a few weeks, so as to cause their flesh to become firm and fit for curing. The setts should be planted about four inches deep; and we think that they ought to be planted more than a foot apart. Even then we suspect that three bushels will not be sufficient to plant an acre,—1200 bushels is a very large return—and if the half, viz: 600, be produced,—the cropping may be considered a good one.]—Ed.

*List of plants and quantity of seed recommended by the Kitchen Gardener's Instructor, for a well sized garden.*

*Artichoke.*—An ounce of seed will produce 600 plants.

*Asparagus.*—One ounce will be sufficient for 1000 plants.

*Beans.*—English Dwarf; one quart of seed will be required for every sixty feet of row.

*Beans.*—Kidney Dwarf; one quart of seed will plant from 350 to 400 hills, or from 230 to 260 feet of row.

*Beans.*—Pole, or Running; one quart of Lima, or large running beans will plant about 300 hills, or 250 feet of row.

*Beet.*—One ounce may be allotted for every perch, or pole.

*Borecole, or Kale.*—An ounce will produce 4000 plants.

*Broccoli.*—One ounce is sufficient for 4000 plants.

*Cauliflower.*—An ounce of this seed will produce 4000 plants.

*Cabbage.*—One ounce will produce 4000 plants.

*Cardoon Artichoke.*—An ounce will produce 600 plants.

*Carrot.*—Half an ounce may be allotted for every pole.

*Celery.*—An ounce of seed will produce 10,000 plants.

*Corn Salad, or Feticus.*—One ounce of seed will sow about two poles of ground.

*Cucumber.*—One ounce of seed is sufficient for 200 hills.

*Egg Plant.*—An ounce of seed will produce 4000 plants.

*Endive, or Succory.*—An ounce will yield 5000 plants.

*Leek.*—One ounce of seed may be allotted for 3000 plants.

*Lettuce.*—An ounce will produce, say 10,000 plants.

*Melon.*—one ounce of seed will produce from 120 to 150 hills.

*Melon, Water.*—An ounce will plant from 40 to 50 hills.

*Onion.*—One ounce of seed may be allotted for every pole.

*Parsley.*—Two ounces may be allowed for three perches.

*Parsnip.*—Two ounces may be allotted for three perches.

*Pepper.*—One ounce of seed will produce 3000 plants.

*Peas.*—One quart will plant from 150 to 200 feet of row.

*Potatoes.*—From twelve to sixteen bushels may be allotted for an acre.

*Potatoes Sweet.*—Half a peck of seed, properly managed, will produce 15 bushels.

*Pumpkin.*—One quart of field pumpkin will plant from 500 to 600 hills, and one ounce of the finest kinds will plant from 50 to 50 hills.

*Radish.*—Four ounces will do for every three perches, if sown broadcast, and about half the quantity if sown in drills.

*Salsify.*—Two ounces of this seed will plant three perches.

*Shallots.*—Four bushels of bulbs will plant forty poles.

*Spinach.*—If cultivated in drills, four ounces will plant five perches of land. If broadcast, it will require double the quantity.

*Squash.*—An ounce of seed will plant from 50 to 100 hills, according to sorts and size.

*Tomato.*—One ounce of seed will produce 4000 plants.

*Turnip.*—From two to three pound of seed is sufficient for an acre of land.

*Sulphate of Ammonia.*—Heat a shovel or any plate of iron to redness, and place upon it a portion of the salt of ammonia; if the salt be pure the whole will go in vapour; if adulterated, the impurity will remain on the plate of iron.—*Gard. Chron.*

## On the Hessian Fly.

We have been honored by the presentation by the learned author, Dr. Asa Fitch of Albany, N. Y., with a copy of his pamphlet on "The History, Character, Transformations and Habits" of this Insect. This work shews very industrious and laborious research into the subject of which it treats, and combines all that is yet known as to this little destroyer of the wheat plant. It is well worthy of an attentive perusal by every one who feels interested in the matter, and, we ask, what farmer does not?

A correspondent from the old country who has had some experience of the ravages caused by this fly, and who has lately perused Dr. F's work, has sent us the following letter which (leaving out some preliminary observations) we lay before our readers.

STR.—It ought always to be kept in view, that the Hessian fly (*Cecidomyia destructor*) is distinct from another enemy to the wheat crop, generally named the wheat fly, (*Cecidomyia tritici*) which first lays its eggs in the ear of the wheat, of which you gave some account in your volume for 1845, page 144, and of whose depredations particularly in Scotland, I may possibly send you some notice at the proper season. I shall now revert to the Hessian Fly as being a subject of direct interest, just about this time. The first generation of this fly—for it has two in the year, deposits its eggs on the blades or leaves of the plant, chiefly in September when the wheat has put forth its second and third blades. Mr Herrick says "the egg is about one-fiftieth of an inch long, cylindrical, round at the ends, of a pale red colour, becoming in a few hours irregularly spotted,—a little while before hatching, two lateral rows of opaque white spots about ten in number, can be seen in each egg. In four days, more or less, the egg is hatched." The number of eggs deposited on a single leaf, exceeds thirty.

The egg being so small, as above described, would of course be extremely difficult of detection, were it of the same color as the leaf, but it may be remarked that it is of a reddish color,—I have myself, frequently discovered them after walking through wheat fields on my boots or shoes, when otherwise they might have escaped my notice, and I point out this that others may also observe the more if they are in their fields at all. Upon the growth of the worm, or active larva, Mr. Herrick remarks:

Says Dr. Fitch, "The little winged maggot, or larva, creeps out of the delicate membranous egg skin, crawls down the leaf, enters the sheath, and proceeds along the stalk, usually as far as the next joint below," or in other words, "to the base of the sheath, which in the young autumnal wheat, is at the crown of the root." Here it fastens, lengthwise and head downwards, to the tender stalk, and lives upon the sap. It does not gnaw the stalk, nor does it enter the central cavity thereof; but, as the larva

increases in size, it gradually becomes embedded in the substance of the stalk. After taking its station, the larva moves no more, gradually loses its reddish color, and wrinkled appearance, becomes plump and torpid, is at first semitranslucent, and then more and more clouded with internal white spots; and when near maturity, the middle of the intestinal parts is of a greenish color. In five or six weeks (varying with the season,) the larva begins to turn brown, and soon becomes dormant, of a bright chestnut color bearing some resemblance to a flax-seed," &c. See remarks on its change given below. I now come prominently to Dr. Fitch, who observes on

*Its characters.*—When freshly taken from the root of the wheat the mature worm measures about fifteen hundredths of an inch (0.15) in length, by about 0.06 in breadth. It shows no signs of life when placed upon paper and turned over with a needle-point. It is soft, glabrous, shining, white, oval and apparently composed of but nine segments, although twelve can often be distinctly perceived before its growth is completed.

*Its mode of feeding.* We have hitherto sought in vain to ascertain, by ocular and microscopic examinations, how it is that the worm imbibes its nourishment from the stalk. We incline to the belief that Dr Lee's opinion is nearest the truth of any that has been hitherto advanced—that it takes in its nourishment by suction, in a manner more analogous to the leech than any other familiar object. (*Gen. Farmer*, viii. 225)

*Its effects upon the crop.* The autumnal attack of the fly is in a double sense a radical one. Each particular shoot at whose root one or more of these larvæ nestles, is commonly destroyed by the time the worm has attained its growth. The presence of these worms is therefore readily detected by an examination of the young wheat in October or November. Individual shoots will be found here and there in the field, withered and changed to a light yellow color, strongly contrasting with the rich green of the vigorous uninjured plants. The frost or some other casualty may cause the eradication of some of the other leaves to be of a pale yellow color, but here the whole plant is of that hue; and where a field is badly infested this yellow "sickly" aspect is perceptible from a distance. On examining the withered plants, the worm or flax seed if it has advanced to that stage, can be readily found. It is situated a short distance below the surface of the earth, at the crown of the root. One or two radical leaves start from this point, their bases forming a cylindrical sheath around the central or main shoot, which as yet is but in its infancy. It is within this sheath, at its base, that the worms repose, one, two, three, or more, and by imbibing the nutritious juices of the young shoot, cause it to wither and die.

"*Its change to a "flax-seed" or dormant larva.* When the worm, or active larva, has fully completed its growth, a slight diminution in the dimensions of the inner soft parts of its body commences, in which the outer and harder skin does not participate, this latter retaining its original full size. The result of this contraction is, that the worm gradually cleaves from its outer skin. If examined with a microscope when this change has recently commenced, a slight

translucent space is observable at the head end, and a larger and more obvious one at the pointed or tail end, plainly indicating that the enclosed worm does not entirely fill its outer skin. This contraction continues, until the worm becomes entirely separated from its outer skin, and lies within it like the finger within a glove. The outer skin at the same time changes in color. From its original whiteness and transparency, it gradually becomes opaque, brown, and finally of a dark bay or chestnut color. Through much less flat than a flax seed, its resemblance in color, size and form to that familiar object, is so striking as at once to be remarked by every one.

"*Characters of the flax seed, or larva case.* Different specimens of these flax seed like larva cases vary in length from 0.13 to 0.19 and in breadth from 0.05 to 0.80. They are shining, cylindrical oval, more obtusely rounded at the lower or head end than at the other, which is generally attenuated into an accumulated point or small projecting papilla. They are commonly composed of but nine obvious segments, and these are but slightly indicated by every faint acutely impressed transverse striæ—a similar transverse striæ, but still more faint, being sometimes perceptible across the middle of some of the segments. Longitudinal impressed striæ are sometimes present, more conspicuous than the transverse, and reaching a part or the whole length of the worm; and between the surface is minutely acurved (i. e. appearing as if lightly scratched by the fine point of a needle) longitudinally—all these longitudinal impressions being perhaps caused by the pressure of the veins and fibres of the plant, against which the worm has been imbedded. On the under side, towards the head end, the case is flattened, as if pinched together, so much so that the anterior segment seems a mere empty fold of the membrane, without any inflation sufficient to make room for internal viscera. At this end is often observable one or two little brush-like granules, resembling those on the soles of the feet of some of carabidous insects. (One of the is indicated on the anterior edge of.) Are these the reliques of the suctorial mouth of the larva? This larva case is comparatively tough and leather-like at first, but becomes more brittle and also darker with age.

"*Character of the dormant larva.* On carefully opening the flax seed or larva case just described, a worm is found within it, scarcely different in any respect from what it was immediately before entering upon this flax seed state. It has the same oval form, spike milk-white color, and green, cloud-like visceral spot or line beneath. The nine segments into which it appears divided, however, are now much more distinctly marked than they previously were, the transverse lines being more deeply impressed, and the margins showing corresponding crenatures. No traces of the members of the future fly are yet discernible. The insect now undergoes no further change, for a period of five months or more. Enveloped in its flax seed like mantle, and reposing at the root of the now lifeless grain, it is buried beneath the snows of winter. Over one half of its entire term of life is therefore passed in this state."

It will thus be seen that this fly deposits the

eggs on the leaves in September, in a few days they are hatched, and a white maggot or active larva comes forth, which goes down to the crown of the root of the plant, and lives on the sap of the tender stalk, thus destroying the shoots. In about six weeks it becomes torpid, and is changed into the flax seed or dormant larva; during the winter months it lies in that state at the root of the plant. "Sometime in April," says Dr. Fitch, "when the weather becomes genial, the larva is rapidly stimulated to maturity, and early in May, most of the insects will be found to have taken on their pupa form." In this state it continues about ten or twelve days, and then sends out the winged fly. Let farmers now have their eyes about them.

"*Second Generation.* About the first of May the fly appears, and deposits its eggs upon the same crop of grain that has already reared one brood, and also upon any spring wheat that is sufficiently forward for its purposes. The radical leaves of the winter wheat are now more or less withered, and the fly therefore selects the more luxuriant leaves that have put forth above these. The fly soon perishes, the worm hatches, and again makes its short journey to its future home, at the base of the sheath; it consequently now nestles at the first and second joints of the young stalk, and is sometimes, though rarely, as high as the third joint. Even before the worm reaches the base of the sheath, it has frequently grown nearly to its full size. The stalk has now attained such vigor and hardness that it is seldom destroyed by the spring attack. A slight swelling, immediately above the joint, commonly indicates the presence of the larva beneath. The appearance of a badly infested field, as harvest time approaches, cannot better be described than in the words of Mr. Koilar. The grain locks as though a herd of cattle had passed through it, so broken and tangled together is the straw. The worm attains its growth and enters its flax seed state about the first of June, and the flies of this second generation commonly come forth about the last of July and in August, and lay their eggs in September, as described at the commencement.

"*Its Parasites.* It is well known that one of the most effectual means for keeping the Hessian fly in check and preventing it from literally swarming all over our land, has been provided by nature herself. Other insects have been created, apparently for the very purpose of preying upon this, and thus preventing it from becoming indefinitely multiplied. The Hessian fly is reared upon and devoured by at least four other insects. When its eggs are laid upon the wheat leaves they are visited by an exceedingly minute four winged fly, (a species of *Phygadeuon*), which punctures the egg and deposits in it four or six eggs of its own; the Hessian fly worm hatches, grows, and passes into its flax seed state with these internal flies feeding upon it: it now dies, and its destroyers in due time escape from the flax seed shell. Three other minute four winged flies, or

bees as they would be called in common language, destroy the fly when in its first seed state. The most common of these, by far, is Say's *Ceraphron destructor*.

"*Remedies.* An effectual remedy" against the Hessian fly, which has been so much enquired after and talked about, and by which term we suppose is meant some specific which will infallibly destroy or drive away the insect, or protect the crop from its ravages, never has been and probably never will be discovered. There is probably no such thing as sure and infallible specifics against any of the insects which invade our crops, any more than there is against those diseases which attack our person. Still, believing this, we also believe that there is no noxious insect but what, when we closely study into its habits we can invariably discover some one or more ways of opposing it, by which we can with certainty to a great extent, if not entirely shield ourselves against its depredations. Thus is it with the insect under consideration. There are measures, which employed, will guaranty fair crops, when if not resorted to, no wheat will be gathered. Of this fact we are well convinced, both from personal observations, and the concurrent testimony of a cloud of witnesses.

"A consideration of the various remedial measures which have been proposed, is therefore a subject of surpassing interest to every cultivator of the soil." A review of these is given in detail, by Dr. F., but as it is of much length, I shall merely give you a condensation as follows:—

1st. *Fertility of Soil.*—Wheat can scarcely be grown except upon a fertile soil in those districts where this insect is abundant.

2nd. *Late Sowing.*—The sowing should be deferred until about the last of September, the season then being past when the fly usually deposits its eggs.

3rd. *Grazing.*—If at any time in autumn the eggs of the insect are observed to be profusely deposited upon the leaves, the crop should be speedily grazed down by sheep, and other stock, or if this cannot be done, (*Ath. Rolling.*) a heavy roller should be passed over it, that as many of the eggs as possible may be crushed or dislodged thereby. One or the other of the same measures should also be resorted to in the spring, if the same contingency occurs; or if the worms are at a later date discovered to be numerous at the first and second joints of the young stalks.

5th. *Mowing.*—The experiment may be tried of mowing as close down as possible, the most infested portion of the field, where the soil is fertile, and the crop rank.

6th. *Fly Proof Seed.*—A resort to some of the harder varieties of wheat, which are known to be in a measure fly proof, may be advisable.

Dr. Fitch particularises the Underhill, the Splenter, the China, the Mediterranean, the Etrurian, and the white-flint Wheats as fly-proof—but he "wholly disbelieves" their being perfectly so, and adds, "if vigor of root, firmness of stalk, and

rapidity of growth, are, as would appear, the points which render these varieties fly-proof; a fertile soil will certainly go far towards imparting to most other varieties the same quality."

7th. *Deep Covering.*—"When the Hessian fly is present in any district, deeply covering the seed, especially if it be early sowed, will in most cases be an additional safeguard against its destruction. The measure therefore is good as a subordinate but it must fall far short of ranking, as a primary one.

8th. *Sprinkling fine salt, ashes, or caustic lime over the young plants.*—The first of these measures was proposed, from its appearing at one time that wheat growing upon points of land exposed to the sea air, was less injured than that growing back from the coast. Neither of these remedies however, have been attended with success, in any case on record, and they probably are of no service whatever, except as they may slightly increase the fertility of some fields. There is no likelihood that the fly, its eggs, or larvæ can be materially discommoded by them.

9th. *Burning and plowing up the wheat stubble.*—Has been unanimously approved of, and strongly urged by several of the most intelligent writers. Indeed, a slight examination can scarcely fail of impressing upon every one its utility, independent of the sanction of authority. Whoever will at, or soon after harvest inspect the stubble of a field that has been badly infested by the Hessian fly, will find these insects in their flax seed state lying one, two, three or more, at the joints of perhaps half the straws of the field. What a trifling labor or rather what a pastime will it now be to set fire to this dry stubble and hereby inevitably consume countless thousands of these destroyers. This point appears so plainly evident, that no one we think will hesitate in pronouncing this remedy decidedly the most important and valuable of all. Is it not a fact, that whilst by this measure we consume the Hessian fly by hundreds, we inevitably destroy its mortal foes by thousands? And that the very means which we thus resort to for averting a future calamity are the surest means that could be devised for bringing that calamity upon us? If nine tenths of every generation of the Hessian fly are destroyed by three or four other insects, who can calculate the value of the services which these latter are yearly rendering us. And who, then, will be so inconsiderate and ruthless as to destroy *none* of these useful parasites, in order to exterminate *one* Hessian fly? Yet this must in most cases be the result of burning the stubble of the wheat field. We commenced our account of this remedy impressed with a belief that it was the best that had ever been proposed; we close it, persuaded that it is the very worst."

The learned Dr. holds this fly to be "an European insect." I have myself seen and experienced its destructiveness in Scotland, where it is but too well known; and it, and the "wheat

fly," were there the subjects of much patient investigation and research, by an indefatigable farmer, and writer on agriculture, whom I consider it an honor to be able to say I knew as a friend, and who is well known to many in Canada, either personally, or by his literary productions; I mean Mr. Patrick Shirreff. It is said to have prevailed for upwards of half a century in some parts of the United States, where its ravages have been very extensive. About 12 to 15 years ago, I understand it appeared in Lower Canada, and so utterly were the crops of wheat cut off, that farmers gave up sowing wheat at all for seven years. Two years ago, however, they resumed it, and it is found now, that the insect only partially prevails. In this part of the province, (C. W.) I believe it was nearly unknown till about 3 years ago, but for the three last harvests, much loss has been occasioned by this little devastator. Every farmer is therefore directly and strongly interested in its expulsion, or utter destruction, and as this is the season in which some of its transformations and habits can well be studied, let every one who has opportunity do so earnestly. Thereby, perhaps, a remedy may be discovered against the Hessian fly; and there is nothing to prevent our Canadian farmers sending you the result of their investigations as to it, as well as to the wheat fly, during the present spring and ensuing summer and autumn, for general information. In Nova Scotia and New Brunswick I understand it is sadly destructive. Scorvus.

*Beautiful Extract.*—Nothing can be more touching than to behold a soft and tender female, who had been all weakness and dependance, and alive to every trivial roughness, while treading the prosperous paths of life, suddenly rising in mental force to be the comforter and support of her husband under misfortune, and abiding with unshaken firmness, the bitterest blasts of adversity. As the vine which has long trained its graceful foliage about the oak, and been lifted by it into sunshine, will, when the hardy plant is rified by the thunderbolt, cling round it with its caressing tendrils, and bind up its shattered boughs; so is it beautifully ordered by Providence, that woman who is the mere dependant and ornament of man in his smitten by the sudden calamity; winding herself into the rugged recesses of his nature, tenderly supporting the drooping head, and binding up the broken heart.—*Washington Irving.*

*Greasing Carriage Wheels.*—The best composition that can be prepared, to relieve carriage wheels and machinery from friction, is composed of hog's lard, wheat flour, and black lead (plumbago.) The lard is to be melted over a gentle fire, and the other ingredients—equal weight—may be added, till the composition is brought to a consistency of common paste, without raising the heat near the boiling point. One trial of the paste will satisfy any one of its superior utility.—*Exchange paper.*

*Profane Swearing.*—The following excellent idea we commend to all; there are few of us who do not fall more or less into the vice alluded to. The paragraph is an extract from *Lamont*, though we find it floating uncredited; still his peculiar and forcible style is not to be mistaken.

Whatever fortune may be made by perjury, there never was a man who made a fortune by commonswearing. It often happens that men pay for swearing, but it seldom happens that they are paid for it. It is not easy to perceive what honor or credit is connected with it. Does any man receive promotion because he is a notable blusterer? Or is any man advanced to dignity because he is expert at profane swearing? Never. Low must be the character which such impertinence will exalt; high must be the character which such impertinence will not degrade. Inexcusable therefore, must be the practice which has neither reason nor passion to support it.

The drunkard has his cups; the satirist his revenge; the ambitious man his preferments; the miser his gold; but the common swearer has nothing; he is a fool at large, sells his soul for nought, drudges in the service of the devil gratis. Swearing is void of all plea; it is not the native offspring of the soul, nor interwoven with the texture of the body, nor anyhow allied to our frames. For, as Tillotson expressed it, "though some men pour out oaths as if they were natural, yet no man was ever born with a swearing constitution." But it is a custom—a low and paltry custom—picked up by low and paltry spirits, who have no sense or honor or regard to decency, but are forced to substitute some rhapsody of nonsense to supply the vacancy of good sense. Hence the silliness of those who adopt it.

*Write it in Gold.*—President Quincy utters truths in the following few lines which should be written indelibly upon the mind of every reader. "The great comprehensive truths," says he, "written in letters of living light on every page of our history, are these: Human happiness has no perfect security but freedom; freedom none but virtue; virtue none but knowledge; and neither freedom or virtue, nor knowledge, has any vigor or immortal hope, except in the principles of the Christian faith, and in the sanctions of the Christian religion."



### The Strawberry.

#### With Figures and Descriptions of Five Varieties.

The ease with which every farmer may obtain this delicious and valuable fruit, should induce him to supply himself with all he wants. It is true we are at this month of the year abundantly furnished with peaches, plums and pears; but the strawberry comes by the first of summer, even as far north as Albany, when nothing else is to be had. Why then should any one let the privilege escape of enjoying a plentiful supply? Now is the time to move in the matter and set out the plants.

Downing speaks of this fruit like a man who knows it well, when he says, "Ripe, blushing strawberries, eaten from the plant or served with sugar and cream, are certainly Arcadian dainties with a true paradisaical flavor, and fortunately they are so easily grown, that the poorest owner of a few feet of ground may have them in abundance."

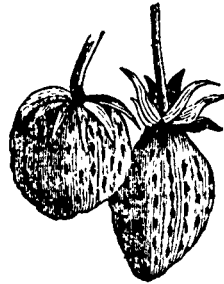
Very few, comparatively, among the mass of our land owners, have undertaken the culture of the strawberry; and of those who have, many have partially failed from two causes, namely, neglecting good, rich, clean, and thorough cultivation; and neglecting to procure fine and productive varieties. As many bushels of strawberries as a corn, may be raised on an acre, and at an expense not very much greater. If it were not so, the strawberry culturists of Cincinnati could not afford to pour into that city their hundreds of bushels, at a price of three to five cents per quart. One distinguished cultivator there raised at the rate of five thousand quarts per acre; and another, who is the most extensively engaged in business, brought into market four thousand quarts in a single day. The fortieth part of an acre would afford a large family a most abundant supply during the strawberry season.

A great deal could be said on the cultivation and management of the strawberry. It may perhaps be sufficient to state merely, that this plant, to flourish, requires, like most other plants, a good, rich, mellow soil; and like nearly all other plants, the soil for it must be kept clean and well cultivated. Who would expect, to see a good crop of corn or of potatoes, from a promiscuous growth of these plants with weeds and grass? Strawberries should be planted in straight rows, about two or two and a quarter feet apart. These rows are as easily kept cultivated by a horse, as rows of potatoes, or carrots. The runners, as they form, must be treated precisely as weeds, and kept hoed down, or at least should be hoed three or four times a year. With such management success can be scarcely doubted.

Once in three years the runners may be allowed to fill in between the rows, and old rows demolished, new ones being thus obtained without planting. The soil should be kept rich by yearly additions of manure in autumn.

**Early Varieties.**—The following are among the best.

The figures were in all cases taken accurately from specimens of fair size, under ordinary good cultivation; the common error of representing larger than reality being strictly avoided.



**Duke of Kent.**—The earliest of all strawberries, and valuable on this account. The fruit is small, being rarely more than three-quarters of an inch in diameter, varying in shape from roundish or round-ovate to long-ovate with a neck, seeds sunk in cavities with intervals usually sharply ridged. Color, bright scarlet, becoming dark scarlet. Flavor, a clear rich acid, and good. Good bearer. Many judges regard the flavor of this strawberry as equal to any other variety, but its quality appears to be underrated on account of its small size, the latter being the chief drawback on its value, and unfitting it for the market. It ripens the latter part of fifth month (May.)

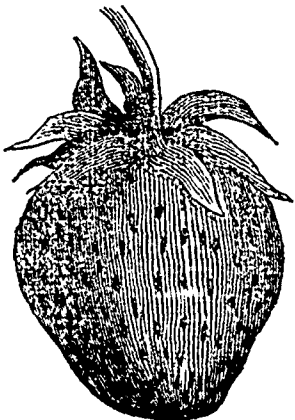


**Large Early Scarlet.**—This variety ripens a very few days later than the Duke of Kent, and is about twice its size, and equal in flavor. It is probably the most valuable of all very early strawberries. Fruit round-ovate, sometimes very slightly necked; calyx on the ripe fruit always showing the perfectly formed and adhering stamens; surface slightly irregular, the seeds often deeply sunk in cavities, with sharp projecting intervals. Sometimes the fruit is slightly flattened

towards the stem. In thick beds, the color is bright scarlet, but dark scarlet when growing more thinly. Flavor rich and fine, much resembling that of the Duke of Kent, but with the addition of a just perceptible shade of astringency. The flowers are always perfect, and it is an abundant bearer.

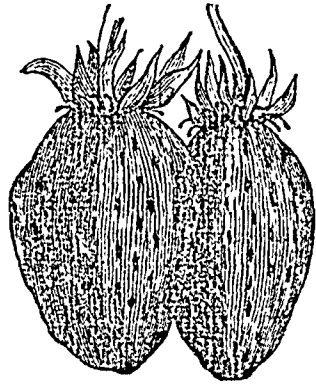


*Ross Phoenix.*—Is large size, fine flavor, perfect hardiness, and great prolificness, may perhaps entitle this variety to rank as high if not even higher, than any other strawberry of large size for the Northern States; though a further and more general trial may be needed. It was raised in 1837, by Alexander Ross, of Hudson, N. Y. Fruit very large; with common culture, four of the berries weigh one ounce, and they are about an inch and a quarter in length, and not far from the same in width. Form generally more or less cox-combed or flattened, but not always, varying considerably, and with the surface more or less uneven. Seeds numerous. Color, dark crimson. Flavor and texture very fine for a large variety. It ripens about the middle of sixth month, (June.)



*Hovey's Seedling.*—This is one of the finest of all the large strawberries, and is usually consider-

ed as perfectly hardy for the northern states. Several cultivators, however, in Western New York have had their plants injured or destroyed by winter, especially on moist or heavy soils, when the Early Scarlet and Ross Phoenix have entirely escaped. Hence a covering of straw or evergreens in winter has been found useful, though in most cases they may be unnecessary. Fruit very large, roundish conical, regular in form, sometimes with a very slight neck. Color, dark red. Texture and flavor very fine for a large variety. Ripens about the middle of sixth month (June.) The stamens are small and imperfect, and hence it becomes much more productive if planted near some variety with perfect stamens, as the Early Scarlet or Ross Phoenix, or by the occasional intermixture of rows of these productive varieties. It thus becomes an abundant bearer. The fruit, with common good culture, weighs about a quarter of an ounce, and is about an inch and a quarter in diameter.



*Prolific Hautbois.*—This is considered as the only variety of the Hautbois worth cultivating. Most persons will probably regard it as inferior to the sorts already named, though some esteem its peculiar, rich and musky flavor, as much better than that of any other variety. Fruit large, ovate-conical, light purplish red at first, becoming dark purplish red, surface rather regular, seeds projecting. Weight about one-sixth of an ounce. The leaves are of pale green, and of large size, and the whole plant of luxuriant growth. This variety is a great bearer, and ripens about the middle of the sixth month.—*Alb. Cult.*

Downing says the Plum is naturally a marine tree, and it is surprising how much salt it will assimilate and thrive upon. We have ourselves, given a single large tree a half bushel of salt in a season, applied to the surface of the ground in the spring, over an acre as wide as the extent of the branches. The tree was in a sickly and enfeebled state, and it had the effect of restoring it to a healthy and luxuriant condition. But we consider this an extreme case, and should not recommend the abundant use of salt every year.—*Herd Book.*

**Professor Johnstone on Rotation of Crops.**

The following is an abridged report of a lecture by Professor Johnstone, of Edinburgh:—

“The course of cropping in different countries depended upon the extent of the population. In some places they ploughed their land, and sowed the same kind of grain year after year until the land refused to give a remunerative return. This plan was adopted in Poland, Southern Russia, and in some parts of the United States, and it had been followed too by ourselves until recently, as one of the readiest methods by which the land could be made to furnish food for the population. Then there was another method which succeeded the other in some districts, and which still prevailed to the very opposite extreme; that is, instead of taking crop after crop of the same kind as long as the land would yield them, one crop of corn was taken, then fallow, then corn, then fallow, succeeded each other, year after year. In Sweden and Germany, and even among ourselves, this method had been pursued. The progress of knowledge led to the adoption of a better method, called the three course shift, consisting of two grain crops in succession, and then a fallow. A variation from this system had obtained in some countries, in consequence of the nature of the soil, and instead of corn, corn, fallow,—corn, beans, fallow had been the course selected. This was a change for the better because it prevented two crops of the same kind following each other; nevertheless it was a change capable of great improvement. The corn, beans, and fallow rotation was best adapted for stiff clay soils; tracts of land of a stiff clayey nature, and there this rotation had been practised ever since the time of the Romans, and was still found to be the most

profitable. He had hitherto spoken to them of fallow as being a member of the rotation of crops; of course he meant naked fallows, which some persons contended were necessary for two reasons,—1st, that the land received rest; and 2dly that it cannot be kept clean without. Upon old cultivated land two general rules had been found to apply; in the first place not to grow two crops of the same kind in immediate succession, and he had already shown that close cropping was bad husbandry, by which he meant, not theoretically, but practically bad, because it did not put money into the farmer's pocket. He believed that the adoption of this rule was generally considered to be bad, and for this reason that though a farmer by getting a succession of the same kind of crop for two or three years together might put money into his pocket, yet at the end of ten years he would find himself to be a loser, in consequence of the land becoming exhausted. The other rule was that there should be the longest possible interval between the first and second crops of the same kind of grain. These were the two main practical principles, and the result of experience went to prove by the adoption of long rotations, a farmer could not only grow as much as before, but that in the second year of the same crop the yield would be greater and more profitable. In treating the subject further, the Professor referred to two classes of considerations, namely, those of chemistry and mechanism, both of which he said were of great importance; in some cases the former more so than the latter, and in others *vice versa*. The chemical principles were explained by reference to the following table, which shows the constituent parts of Wheat, Turnips, Barley, and hay, in the ordinary rotation of crops:—

*Pounds of Matter contained in an Ordinary Rotation of*

	Wheat, 25 bushels.		Turnips, 20 tons.		Barley, 40 bushels.		Hay, 1½ tons.		Total.
	Corn.	Straw.	Bulbs.	Tops.	Hay.				
Potash.....	14.39	32.73	142.66	88.62	38.22			316.82	
Soda.....	7.05	1.21	17.31	16.76	12.05			54.38	
Lime.....	2.24	27.62	46.24	62.14	44.45			192.69	
Magnesia.....	7.60	12.14	18.16	9.58	7.09			54.57	
Oxide of Iron, with a little Oxide of Magnesia and Alumina.....	1.11	5.96	4.35	2.67	0.58			14.67	
Phosphoric Acid.....	35.76	10.56	25.77	28.80	15.12			116.01	
Sulphuric Acid.....	0.12	13.15	46.24	38.81	9.20			107.52	
Chlorine.....	0.02	3.55	12.24	49.75	4.06			69.62	
Silica.....	14.71	233.08	23.03	2.67	78.23			355.72	
	83.00	340.00	340.00	310.00	209.00			128.20	

Now the plant contained a certain quantity of all these different things, which it obtained from the soil, and without which it could no more grow than he, or they, at the end of the year, could pay their bills without the money in their pockets. The chemists therefore say that whatever crop be grown, it will require all these things, but they also say that some crops require a larger, and some a smaller quantity, as illustrated by the above table; so that a portion of the land, which contained a certain amount of potash and sulphuric acid might grow a crop of corn, but refuse to grow a crop of Turnips because corn required little of those ingredients, whereas turnips required much. At the same time they might grow a crop of turnips upon land, containing a large quantity of those ingredients without unfitting that land for a succeeding crop, such as wheat, because the turnips, by taking out a certain amount of these ingredients, prepared the land as it were for a crop of that plant which required less of them for its support. Thus then they saw that turnips might prepare land for wheat; but how was wheat to prepare lands for turnips? By a wise provision, the surface of the country slowly but continually crumbled away, and the action of atmospheric agents upon it was such as to liberate from it a certain quantity of all these different ingredients set forth in the table, and as the wheat carried off comparatively little of these different things, and and they were thereby allowed to accumulate, and thus prepare the land to be again employed for the growth of a crop of turnips, or such succeeding crop as might require them for its food. Having treated thus far on the chemical consideration, the lecturer proceeded to speak of the other consideration which he had suggested, namely as to mechanism. Perhaps some of those present were in the habit of saying, or of hearing other persons saying. "My land has got too light for wheat, and without certain applications, it will not produce such a crop as it used to do." It was a tendency of long culture to make land lighter, so much so, that at the end of four or five years of successive ploughing it would not grow the crop required. Well, in order to remedy this, some men rolled their wheat, others put sheep upon the land to consolidate it, and others adopted the plan of laying it down in grass. Now this mechanical consideration had great weight with the skillful agriculturist in determining him to adopt one rotation rather than another, because, whilst wheat and oats delighted in a heavy soil, barley grew more luxuriantly upon a light soil. Again, clover did not grow freely upon barley soil, but upon

such soil as wheat delighted in, and hence, in reference to clover, the farmer must bear in mind the original habit of that plant, if he wishes to find out in what part of the rotation it ought to be introduced. Seeing, then, that different plants had different habits, it was clear that in the management of them, they must not depend upon chemistry alone, but that mechanical considerations were of the greatest importance in reference to green crops; and the result of drainage and of all mechanical improvements, went to establish the production of four crops instead of three, or four crops for four rents, instead of six crops for eight rents—a result which was to be brought about by all wheat and clover lands being brought into a state in which they would grow barley also. With regard to some crops, he contended that neither chemical nor mechanical agency had anything to do with the results that had been observed, and he instanced the case of clover growing amongst wheat, which, when the latter was cut down, often perished, in consequence of being left unprotected during the hot days and frosty nights of autumn. He proceeded in the next place to notice the disease of "fingers and toes" among turnips, and after canvassing the two opinions as to the cause of this disease—the attack of an insect, of the nature of the soil—he observed that whichever of these were the cause, was of little moment so long as they knew the remedy, which was to be found by adopting the plan of liming the land. There was, however, a proper time for applying the remedy and he showed, by illustration, that that proper time was in autumn.—*Gar. Chron.*

*English Roman Cement.*—Take a bushel of lime slacked, with three pounds and a half of green copperas, fifteen gallons of water, and half a bushel of fine gravel sand. The copperas should be dissolved in hot water; it must be stirred with a stick, and kept stirring continually while in use. Care should be taken to mix at once as much as may be requisite for one entire front, as it is very difficult to match the colour again: and it ought to be mixed the same day it is used.

Genuine Roman cement consists of the pulvis Puteolanus, or puzzolene, a ferruginous clay from Puteoli, calcined by the fires of Vesuvius, lime, and sand, mixed up with soft water. The only preparation which the puzzolene undergoes is that of pounding and sifting; but the ingredients are occasionally mixed up with bullock's blood, and fat of animals, to give the composition more tenacity.

## Hints on Gardening, &amp;c.

Having laid the beauties or poetry of the subject before our readers, in a previous article, we shall now give them some prose, or useful matter from the *Ohio Cultivator*, as well as a few observations of our own:—

The weather, for the past month, has been quite unfavorable for out-door operations. As soon as the ground becomes sufficiently dry for working, great dispatch should be used in putting in the seeds of early hardy vegetables, and no time must now be lost in finishing up the business of trimming trees and bushes, grafting and planting fruit trees, &c.

We will now give a few brief hints in regard to a few kinds of garden vegetables, adapted to the season;

**Peas**—For early use should be sown as early as possible—frost may hurt but will not kill them. The early May or Washington is the earliest kind; the early June are a few days later, and continue longer in bearing; next come the Dwarf Marrow-fat and the Blue Imperial, both which are much superior in size and quality to the early kinds. The last named is thought by many to be the finest of all. It sown at the same time as the early ones, they will come in use 2 or 3 weeks afterwards. None of these grow higher than 3 to 4 feet.\*

**Cauliflower and Broccoli**—These are justly termed garden luxuries. They require considerable care and skill, with suitable soil, to raise them successfully in this climate, where there is too much sun and heat to suit their habits. A very rich soil, retentive of moisture, but not too wet, is required. The plants are usually forwarded in a hot bed, in March and April, and set out like early cabbages, in April or May. A more certain way for an early crop is to sow the seeds in Autumn, and protect the plants in a cold frame during winter. These will head during summer; but those sown in hot beds will usually head in the fall, if the ground and culture are suitable, and the season not too hot and dry. The early purple Cape is the most approved variety of Broccoli for this climate, and the early Cauliflower is more certain to head than the late variety. The ground, before planting, should be well manured, and dug or plowed very deep, and the plants should be frequently hoed and earthened up while growing.

**Cabbages**.—Every body knows how to grow these. The Early York is the earliest kind; the Sugar-loaf next; then the Large Early York, which is a remarkably fine cabbage for fall use. The Green Curled Savoy is a very sweet and delicate winter variety, but not large; the Flat Dutch is a certain and profitable kind, with very firm heads, the Large Drumhead is the largest and most common winter variety; and the Drumhead Savoy is much approved in some places, for

\* The scymeter pea is an early, most productive, and very tender variety.

winter use. It is said to be more delicate than the old Drumhead, and equally large. Cabbage seeds, for an early crop, should be sown in the fall, and protected during winter;—or sown in a hot bed in March or April, and transplanted as soon as of sufficient size. For winter use they may be sown in a sheltered spot, in the open ground, any time during April, or the first week in May; or seeds may be dropped in hills, where the plants are to remain. The soil for cabbages must be deep, moist, very rich, and well worked.

**Beets**.—Sow the Early Turnip-rooted for summer use, as soon as the ground is in fit condition. The Long Blood, and other varieties for winter, need not be sown till May, or even the 1st of June; only there is danger of the seeds not vegetating, if a dry time follows immediately after the sowing.

**Carrots**.—These may be sown any time this month, or early in May—before dry weather sets in, else the seed will fail to grow. The Early Horn Carrot is a shortish delicate variety, for the table. The Altringham and Long Orange are the principal kinds for winter—good for table and for stock. The Long White grows very large, and is grown as a field crop for horses and cattle.

**Parsnips** should be sown as early as possible, as the seeds vegetate very slowly, and in hot dry weather will not grow at all. The soil should be of the deepest kind: a sandy loam is the best; but a clay soil will do, if worked deep, and made rich with compost, or well rotted manure. (These remarks also apply to Beets and Carrots.)

**Salsify, or Oyster Plant**.—This vegetable is gradually coming into use. Its culture is the same as the parsnip, and, like it, the roots may be left in the ground, over winter, for use in the spring.—

**Spinage** is a very wholesome and useful vegetable, and ought to be in every family garden. The seed should be sown in rows of about eight inches apart; that proper for sowing now, and during all summer, is the round seed—while in autumn the prickly sort is the kind to use—and it stands all winter, and comes into use early in spring.

**Cress**.—Every one knows how to manage it.

**Onions**.—The Strasbourg, the silver skinned, the yellow and the large red, are the most productive and best keeping kinds; onions are a very nutritious vegetable, and may be sown either now, or in autumn.

**Turnips**.—The early white Dutch, or small yellow are the proper kinds for the garden.

**Beans**—Both large and kidney ought now to be sown.

**Leeks**.—One of the most useful vegetables, and though well known in Scotland, not yet much cultivated in Canada. They ought to be transplanted from the seed-bed, when pretty strong, into a deep rich and highly manured soil. The roots and tops are generally cut, but the writer of this much disapproves of the latter being touched at all with the knife. In Scotland they are planted out into rows about a foot wide, and six

ches between each plant,—the roots being previously well moistened, a hole is made by a dibble into which the plant is carefully put, and a very little loose fine soil is gently dropped into it, but on no account is the hole to be filled up or packed with earth. The writer much approves of earthing up the plants when they have attained some size, in the same way as is done with celery; the white, which is the part of the plant alone fit for use, being thereby greatly increased.

**"Egg Plant."**—This vegetable is a native of Africa; hence the name *guinea squash*, by which it is designated in the southern States. Of late years it has become of very general use, and large numbers of them are grown for the Philadelphia market; they are used in stews and soups, and eaten in thin slices and fried. In the latter mode they closely resemble oysters similarly cooked.

To have them early, it is requisite to sow them in a hot-bed early in the spring, transplanting them into another when they attain the height of four or five inches. In the second bed they may be planted in rows, at distances of four inches, or they may be put in small sized pots, one in each, and the pots plunged up to the rim in the mould. This latter plan is preferable, as the roots are not disturbed at the final transplanting. They should not be put out in the open ground before the close of spring, because the plants are very tender, and should they even escape frost, may become stunted from continued cool weather.

Those who have not convenience of a hot-bed, may sow in pots or boxes in April, keeping them by a south window, or may place them in a frame without dung, covered by sash, carefully sheltering them from frost and cold winds. But the seed is difficult to start, and by no means sure to succeed by this method.

When about to plant them in the open ground, choose a well cultivated spot, and if not rich, add a quantity of thoroughly rotted stable manure; place the plants two to three feet apart each way.

**Lettuce.**—The use of Lettuce as a cooling and gentle salad, is well known; it is also a useful ingredient in soups. It contains, like the other species of this genus, a quantity of opium juice, of a milky nature, from which of late years, medicine has been prepared, under the title of *Lactarium*, and which can be administered with effect in cases where opium is inadmissible.

The varieties are very numerous. Those herein enumerated have been selected from the many which have come under our observation, and will be found to suit the various seasons of the year. The varieties celebrated in Europe, are of little value here, soon shooting to seed under our hot

The Early Cabbage Lettuce is the earliest; it produces a moderately sized and very firm head; it is well known among the Philadelphia market gardeners as the "butter salad."

The Royal Cabbage Lettuce is a very large variety, dark green, with firm head, and withstanding the sun better than the preceding variety. It rapidly shooting to seed.

The Indian is a very fine kind, produces large hard heads, leaves wrinkled, stands the sun remarkably well.

The Philadelphia Cabbage resembles the "Royal," and in all respects a desirable variety.

The Early Curled [Silesia] does not head; it is used principally as "cut salad."

Lettuce delights in a deep, rich soil, not too heavy or humid. For early spring use sow about the middle of autumn, in some sheltered situation, as the plants, or a portion of them, are to remain there during the winter, lightly covered with straw or cedar brush to protect them from extreme cold. Early Cabbage, and Brown Dutch, are better suited for planting at this season.

Part of those which remain in the seed-bed during the winter, should be transplanted as early in the spring as the ground admits of being worked. The remainder may be set out subsequently, which will ensure a more regular supply. To secure an uninterrupted succession, frequent sowings should be made during the early part of summer thus.

In the earlier sowings those thinned out may be transplanted, and will produce good heads; but when the weather has become warm and dry they will not succeed well: it is therefore better to sow over as much ground as will produce the quantity required. For the earlier sowings all will answer; for the latter ones, when the season is far advanced and the heat greater, the India and Royal Cabbage are better sorts.

During the heat of summer the heads will be but poor, unless the season be very cool and humid. Sown about the close of summer and early in autumn, they will be well, as the weather will have become cool before they reach maturity. When sown in autumn or spring heading, it is advisable to take some of the earliest and latest.

**Nasturtium.**—The Nasturtium is a native of Peru. "The flowers and young leaves are frequently eaten in salads; they have a warm taste, like the common Cress, hence the name of *Nasturtium*. The flowers are also used as a garnish to dishes. The berries are gathered green and pickled, in which state, they form an excellent substitute for capers."

It should be planted on a warm border in April, having soaked the seed in warm water for twelve hours. The usual mode of planting, is in hills three feet apart each way, four seeds in a hill; two strong plants are sufficient to remain; when they commence running, place brush around them to climb on. When the berries attain full growth, but whilst yet tender, they are plucked with the foot stalk attached, and preserved in vinegar.

**Orka.**—The Orka is a native of the West Indies, where it is much used in soups and stews; its use is rapidly increasing here. There are two varieties, the large and the small podded or capsuled.

The seeds are planted late in spring, either in rows or hills, three feet apart; the plant thrives readily, and requires no further care than is requisite to keep it free from weeds.

**Peppers.**—The Pepper is indigenous to the

East, and West Indies, South America, &c. There are many species and varieties; the Bell or Bull Nose; a variety of the same form, but more mild, called Sweet Pepper, and the Tomato shaped, are the kin is usually cultivated for pickling. The Long Podded Cayenne, Lady Finger, or Bird's Bill, by all of which appellations it is known, is usually ground for table use.

**Tomato.**—This plant is a native of South America, and perhaps of the West Indies; thence introduced into this country. But a few years since it was scarcely known as an esculent—now it is getting in general use.

Cultivation same as directed for the Egg Plant. It is, however, more free in growth, and will produce fruit tolerably early, when sown on the open border.

#### Remarks on the Science of Agriculture.

BY H. HUNT, M. D.

Agriculture is both a science and an art. The science of agriculture is the embodiment of those principles and facts drawn from geology, mineralogy and inorganic chemistry, that refer to formation, mineral construction, and chemical composition of soils; also it embraces a knowledge of the analogy and physiology of plants and the chemico-vital laws that determine the adaptation of plants to soil and climate. The art is the practical adaptation of the science to the cultivation and production of fruits and vegetables.

The surface of the Territory of Wisconsin, as well as that of the neighboring States, is covered to an indefinite depth with what geologists call diluvium, or the diluvial or drift formation. This is composed of gravel, sand, and clay, with fragments of broken rocks belonging to both the primary and secondary formation more or less rounded by attrition and the action of water. Many of these boulders (or "hard heads") belong to the class of primary rocks called granite; others to the secondary limestone formation. This is completely covered, except the gravel bluffs and ridges, and where the lakes and streams have deposited detritus, with a very fine compact loamy stratum, belonging to the same formation (diluvium) of various depths, from a few inches to a number of feet. This is what is understood by the term sub-soil, and consists of the finer particles of disintegrated elements of the primary and secondary rocks, these having been broken to pieces and ground to a fine powder. The sand and the gravel beneath the sub-soil, differ only from this in being coarser and heavier, consequently taking a lower position. The boulders are still larger portions of the same rocks. No beds of coal can ever be found in the diluvial formation, for the diluvium was deposited subsequent to the coal formation, and subsequently overlays it, which is one reason why we shall not be able to find coal beds in Wisconsin.

We might here enter into some speculative remarks in reference to the agency that produced this truly wonderful formation, that covers to an immense depth the northern portion of the Mississippi valley. It would be a pleasant subject, but still it would be hardly warrantable to take the pages of an agricultural journal in the discussion of theoretical subjects, unless they have a practical bearing. However, I will briefly give my opinion concerning the matter.

1. Prior to the creation of man and animals, the world was a plain, and the northern portion of North America was covered by the ocean. The mountains probably formed islands. The southern portion might have been partially or entirely covered.

2. The crust of the north part of the continent was uplifted by some mighty force, proceeding from the bowels of the earth, such as is at present time in operation in the production of earthquakes, the perpetuation of volcanoes, the upheaval of some portions of the earth's surface at the present day; though then much greater, and consequently the elevating process much more rapid than at the present time. The continent was tilted up in the form of an inclined plane facing the South; and in consequence of the upheaval, the water occupying the location of the United States retired to the South and at the same time the Arctic Ocean rushed down this inclined plane from the north with all its vast mass of ice with irresistible momentum, upon the mountains and rocks in its onward march—breaking and grinding them into fragments and portions. According to a well-known law of gravity, the heavier portions would fall first to the bottom, the smaller and lighter particles last; this would account for the sub-soil being much finer than the stratum beneath; also for the fact that the boulders of the largest size and in the greatest numbers are found farthest north and nearer the sea whence they came. For instance, the boulders in Wisconsin are more numerous and larger in size than in the States of Illinois. For it is probable that the boulders both of the primary and secondary rocks came from the region of the Superior. At any rate this is the opinion of the best geologists.

There is one very important practical bearing originating in the fact that our soil consists of a great measure of the pulverised elements of granite rock. The circumstance is this, feldspar, the most predominant mineral of the three that constitute granite, (viz. quartz, mica, and feldspar) contains potash, the vegetable alkali in abundance, and in a larger proportion than any other mineral or rock. According to Bakewell and others, feldspar contains, in 100 parts, siliceous oxide, 63; alumine, 11 to 14; potash, 13; lime, 3; oxide of iron, 1; loss, 3 to 6. The above is the actual formula of feldspar, with the addition of magnesia, manganese, &c. of minor occurrence, would constitute an excellent soil for wheat and other grain.

Lime and potash are necessary to the growth of all kinds of grain. Lime, however, is pro-

abundance in our sub-soil, aside from what it derives from the disintegration of granite; for there are lime bowlders and pebbles in abundance dispersed through the diluvium, which demonstrates the fact that there is plenty of lime in the sub-soil. But potash, the vegetable alkali, is scarcely obtained from any other natural source in adequate quantities to render our soil as productive and as well adapted to wheat and other grain as it is.

I do not know that there has been as yet a complete analysis of the soil of Wisconsin. But from the nature of the formation, the different strata and the opposite relative proportions of the minerals that compose it, as well as the quality and quantity of the different varieties of trees and plants that it produces, we are enabled to make out a formula (by guess) that will be approximately correct. Therefore I will hazard one. Silica, 80; lime, 5; lime, 8; in all, 93; the remaining 7 parts consist principally of potash and the other alkalies, viz. soda and magnesia, together with iron, manganese, &c.

The fact that the oak bark of Wisconsin is not good for tanning leather as eastern bark is probably owing to the abundance of the alkalies in the soil, which would either saturate the tannic acid, or act directly injuriously on the hides, and perhaps in both ways. One thing is certain, viz. that there is a very large amount of silica in our soil, and this can only be absorbed by their roots in combination with potash, in the form of silicate of potash.

The surface soil differs from the sub-soil, in being mixed with it more or less vegetable mould and humus. The surface soil of the prairie contains, as a general rule, too much humus for wheat. The surface soil of the openings and prairies has much less than that of the prairies, and is consequently better adapted to the growth of wheat. The muck of the marshes contains but little vegetable matter, therefore not adapted to wheat.

From the foregoing data, which are at least approximately correct, may be deduced a number of important inferences of great practical bearing to the agriculturist, horticulturist, and arborist; some of which I will notice briefly.

The sub-soil of this region contains the elements of inexhaustible fertility; the earths and silices being in due proportion, in great abundance, and in a tolerably good state of disintegration, without which the woody plants and the various kinds of grain could not flourish or come to a state of maturity.

The surface soil of the prairies contains too much humus, and too little earthy or mineral matter for wheat to flourish well and mature a plump ear, after two or three crops are taken off without replenishing it in some way with the silica, &c. that have been abstracted from the soil. Fruit and shade trees will not do well unless their roots are supplied with subsoil or until their roots penetrate it. So far as my experience goes fruit trees transplanted into the deep rich

muck of the prairie acquire a succulent growth and stand the winter poorly. The sub-soil is not duly prepared to nourish plants until it has been exposed to the action of the atmosphere and permitted to undergo a still further degree of disintegration.

The prairie sod when well rotted, although it contains but a small amount of earth—silica, lime, potash, &c.—makes a very good soil for two or three years; for the mineral elements it contains are in the very best condition for being taken up by the radicles of these plants, for they have been absorbed and assimilated again and again by the grasses and herbs. When mixed with the more solid sub-soil, it constitutes the very best soil for fruit and shade trees.

3. It follows as a matter of course from the above principles or facts that it is all-important to the prairie farmer that he plows deep and turns up the sub-soil, if he intends to raise wheat. I have known wheat to grow on the earth taken out of the bottom of a ditch two feet below the surface, and mature a fine plump kernel, while the grain growing in the same field on the surface soil was badly shriveled and hardly worth harvesting. And in fact in our county the past season there were hundreds of acres that were not harvested at all, and much more that did not half pay. However, the failure the past season did not entirely depend on shallow plowing, for the wheat in the openings was not quite perfect, though much the better of the two.

4. Straw, instead of being rotted or burnt in heaps, which is generally the case at least in Wisconsin, should be strown over the field from which it was taken, and burnt with the stubble. The obvious reasons for so doing are these:

1. There is in the prairie soil already a superabundance of decayed vegetable matter; and by burning the straw on the field, you thereby return to the soil all the inorganic elements that the straw contained, and the absolute loss to the soil is what is taken away in the grain, which is considerable.

2. Plowing in the straw and stubble makes the soil too loose and dry, which is no small objection. The straw when plowed in is much longer in passing into a state suitable for affording its inorganic principles to the new plants than when rotted in heaps and converted into manure; but when the time required is compared to that of burning the straw, there is an infinite disparity. There is one argument in favour of rotting the straw, either in heaps or plowing it under. Ammonia is required for the nutrition of all plants; burning dissipates this, or the elements that form it, into the atmosphere, while when straw is suffered to ferment, ammonia is slowly disengaged and may be absorbed by the roots of the plants in the form of carbonate or sulphate of ammonia. But snow and rain absorb ammonia in the atmosphere and precipitate it to the earth, and in this way this indispensable element is furnished to growing plants.

Delavan, March, 1847.—*Fra. Far.*



## ORIGINAL CORRESPONDENCE.

## I. An effectual means of saving Horses, &amp;c., in case of Fire.

Mr. Editor.—SIR,—I have been much grieved on reading accounts of horses and cattle being consumed in fires which have occurred, both in Canada and the United States; and was lately grievously shocked on contemplating the half roasted carcass of a cow, and still more lately, of a horse, lying among the ruins after two of these calamities which happened in this city. We are not told that any attempts were made, upon any of these occasions, to save the wretched animals from perishing in a manner so much to be lamented. I shall not indulge in any vague speculations on the question, whether these and other creatures exist in a future state, when they shall be emancipated from the effects of the fall of man, or whether they, some time or other, enjoy themselves in a state of innocence, peace and happiness, and freedom from labor, want and suffering, as they certainly did previous to that dreadful event. But I may be allowed to say, that every act of cruelty, neglect, or even carelessness, on the part of our race, by which distress and suffering is caused to living beings of whatever kind, ought to be, and I doubt not will be, visited ten fold upon the heads of the offenders. In the case of the animals consumed, on the occasions above referred to, I shall take the view most favorable to human nature, and suppose, either that they could not be reached on account of the intensity of the fire, or when they were got at, they were already destroyed, or (and this is the most probable of all reasons,) they could not be removed, or induced and caused to remove themselves, and thus, through the ignorance of mankind, of a very simple, effectual, and easy mode of operation, in such cases, they miserably perished.

The means I shall now lay before your readers, (should you choose to publish this communication) I have never seen in print; but I may be allowed to affirm, that in point of value, it even exceeds one of the most excellent works of man's invention, I mean insurance,—and to say in the language of our active and business doing neighbors. "It is worth a good many dollars;" for it is certainly a matter of most vital consequence for farmers and all owners of horses and cattle, to know how in cases of sudden fire, they may save the lives of, and thereby prevent much horrible torment, and a cruel and dreadful death to, these valuable animals, and consequently a heavy loss to themselves. You may perhaps say "come to the point at once, and I give us your plan." I must however, interest your patience for one moment, till I first explain one cause why horses especially, often suffer on such occasions, and the means of prevention will then be better comprehended by every class of readers. It is a curious natural propensity of horses, if not of cattle generally, to cling to the place where fire is raging all around them, and no beating, flogging, or any other persuasion or compulsion is of any use to induce them to save themselves. They have been known

to lie down and perish, even when in a loose halter rather than remove, nay, in some instances, appear so charmed as it were, (as birds are to be by serpents) that they have rushed into, and been consumed by the flames, and they had been fairly removed from their influence. It may perhaps, with correctness be said, that sheer terror is the cause of their acting in the one case, while they must be influenced by some other indistinguishable feeling impulse in the other. These circumstances, however, not being very material at present, I do not now discuss them.

The plan I recommend is, first to blind the animal thoroughly, and second, to unloose the halter, and the terrified animal will, kind and gentle usage at once suffer him to be led past, nay, even through the raucous element. I have myself been benefited by possessing the knowledge of this plan, and satisfactorily and practically put it to the test after all other means that could be thought both gentle, persuasive, and compulsory, been tried in vain. Should it prove of service on many occasions, I shall, of course, be highly delighted; and if it does so even in one, I will be well pleased.

I am, &amp;c.,

SCOTT

## II. ON WATER CISTERNS.

SIR,—

During the four years that I have taken a useful paper, I have frequently noticed your desire for communications from persons interested in the improvement of this fine country. Considering myself amongst that number, I feel upon at the present time to call the attention of my fellow countrymen to a matter of great importance to every one who desires to have a comfortable about his house. I refer to Cisterns for rain water. I have had one in use now five years, and though it cost me much more than one need cost others at the present time, if on a similar plan, it has long since repaid its cost, and I consider that I now have it for nothing. I will endeavour to give a description of it:

The man who made it, merely dug a hole in the solid clay, about five feet across at the top and about the same number of feet deep, with bottom, however, a little less than the top, with round sides. This was made smooth by three coats of mortar, made of good sand and hydraulic cement, (about half of sand and half the cement,) were laid on, whilst the mortar was still fresh. Across the top was laid a piece of timber 6×8 inches, imbedded six inches on each side of the cistern; and upon this and there

The cistern was laid a floor of 2-inch plank. This floor was made a hole sufficiently large for a man to pass through, and in this was fitted a box, through which the pump was passed. Below the under level of the beam mentioned above, were made two small openings, one for a pipe that conveys the water into the cistern, and another rather lower connecting with a drain, which discharges the surplus water. Around the tank and on the floor was laid a sufficient quantity of earth to keep out the frost, which is absolutely necessary, for if the frost gets into the cistern, it is ruined. This cistern was made by two men in little more than a day—say two days and a half. The quantity of cement used did not exceed ten bushels. And though we have a large family, and use a great deal of soft water, we have not been without that great comfort in our family, even in the longest droughts. It is supposed to contain about 40 barrels of water. I am well satisfied that a similar cistern can be built for about £2; and who is the reader of your paper that will be plagued with barrels for catching his rain water, that are always bursting their tops in the winter, and falling to pieces in the heat of summer—or even with the open trough, which always becomes a nursery of mosquitoes in the summer, when he can have a cistern free from these objections, for the small price of £2? Some people may think that one of so simple a construction would be useless and liable to fail. Mine was examined this winter, and it is as tight as a drum, and as smooth and perfect as the day the first drop of water went into it. Persons who would prefer it, might have them walled with stone, laid either in common mortar, or that made of sand and cement, and might have a cover made either of a large flat stone, such as can be easily had at our quarries; or of a brick arch. I find mine answer my purpose admirably, and have no idea that I shall have ever to renew anything but the plank covering.

The cement can be had here, at the cement mill of Messrs. Brown & Macdonell, for about 3d. per barrel; and will be sent, I believe, to any port on either Lake, if ordered. This cement is of the very first quality, being that with which the splendid locks in the Welland canal were built. It is said that there is none better in the world—and is dug out of the face of our mountain, adjoining the village of Thorold. Any common plasterer can work the mortar and put

it on, if he is only careful not to mix too much at a time, and apply it before it hardens. I would also mention that our cellar floor is made of the same material, laid on broken stones. It is quite impervious to rats, and makes a nice cool, clean floor.

I trust that this communication may be the means of inducing many of your numerous readers to promote the comfort of their families; save themselves from much vexation; make the work of Monday as easy to the women as they can; and encourage a new branch of Canadian enterprise, by each ordering the construction of a cistern for their houses without further delay.

I should think that it would answer the object of your warehouse, to have a quantity of the cement on hand, to supply your numerous friends with. It may not be amiss in me to state here, that I am in no ways interested in the promotion of cistern building, further than I rejoice in seeing my fellow-countrymen adding one comfort to another, year after year—and in the encouragement, as far as I can, of every branch of Canadian enterprise.

Your obedient servant,

T. W. FULLER.

THOROLD, April 9th, 1847.

### III. CURE FOR MURRAIN.

SIR.—

Noticing in your excellent paper for February, that the murrain had been lately very destructive in one of your correspondents herds; I am induced to send you a receipt for making a drench, which I have seen tried with great success on the River Thames, in the Western District. It is this: Take a large tin milk pan full of the roots of the common bracken, that grows in swamps, cover them with water, and boil down to about three pints of juice; add 4 ounces of saltpetre, and same quantity of butter. Drench the animal with this, and if not relieved in six hours, repeat it. I received the receipt from a noted cattle curer; and have seen it tried with great success. I have since noticed, that wherever the murrain is common, the bracken is also to be found; and look upon it as another proof, that a kind Providence never sends any disease to man or beast, without providing some remedy at hand for it. Where the murrain is common, this preparation might be made and kept corked for use. It is at any rate cheap, and within the reach of all.

T. W. FULLER.

THOROLD, April 11th, 1847.

## IV. Diseases of Cattle.

SIR,—

In your February number, under the title "Murrain in Cattle," a subscriber offers five pounds to any one who would furnish him with a certain remedy for that dreadful disease. But I do not believe there is an infallible remedy for this or any other disease, after it has reached a certain stage, in some constitutions.

The following treatment I have found very successful:—

On the first appearance of any symptoms of Murrain or Redwater, bleed severely, if the animal is in good condition, then give him, with a horn or bottle, one pound of Epsom salts, and half an ounce of nitre, dissolved in warm water, and one quart of molasses, all mixed well together. Great care should be exercised in giving medicine to cattle. They should not be excited, and as little force used as possible. The head should be held straight, a little elevated, but not too high, so that they may swallow naturally.—If the animal will not drink gruel, pour plenty by the horn or bottle into him, till the medicine operates. The following dose should then be given every second day until the bowels become regular: two table spoonsful of sulphur, half an ounce of nitre mixed in a quart of molasses, and adding a little warm water. Give the animal dry shelter, and keep him moderately warm. But to prevent the murrain and other diseases in cattle is of more importance to the farmer than to know how to cure them. I would say to those who shelter their cattle in winter—do not turn them out too early in the spring, nor till the ground becomes dry; for if cattle lie on the ground with empty stomachs, their bowels are sure to be deranged. And in the fall I recommend them to be put in on the first approach of cold nights and stormy weather. Be sure to pay strict attention to the state of the bowels. If cattle continue long, too lax or too dry in their dung, disease will follow. By keeping the bowels in a proper state, hundreds of the cattle that die annually in Canada might be saved, and hundreds more that merely live, might become profitable to their owners.

I am, &amp;c.,

JOHN PATON.

Rosebank Farm, near Amherstburgh, }  
March 13th, 1847. }

[We shall be most happy to receive further communications from Mr. Paton, as we rely on his practical knowledge. And as we are aware that he is thoroughly skilled in the diseases of cattle, we are well pleased to lay above before our readers, and to call their particular attention to it. Can some of them not "do likewise," on many practical subjects adapted to our columns?—Ed.

*The best Manure.*—Science in its patient grimageis every day bringing to light some or hitherto undeveloped principle, of value to the farmer. A *Parisian Journal*—the "*Phalanx*"—says that recent experiments have abundantly demonstrated that no manure is so beneficial to a plant as its own leaves. It further remarks, that the "vine-dressers in that country who have pruned the leaves and twigs of the vine with the care about the roots, have thus produced the most healthy and prolific grape-vines known."

*A Good Paste for Books, Muslin, &c.*—When made in the ordinary manner, paste soon becomes mouldy, and by fermenting in warm weather loses its sticking power. To make some to keep make it thus: Dissolve about an ounce of alum in a quart of warm water, when cold, add as much flour as will make it the consistence of cream, then strew in it as much powdered rosin as will stand on a shilling, and two or three cloves; let it to a consistency, stirring all the time. It will keep for 12 months, and when dry, may be softened with water.—*Scien. Amer.*

*Boil your Molasses.*—When molasses is used in cooking, it is a very great improvement to boil it and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar. Where molasses is used much for cooking, it is well to prepare one or two gallons in this way at a time.

*Remedy for Fever and Ague.*—Take one ounce of yellow Peruvian bark, a quarter of an ounce of cream tartar, one table-spoonful of powdered cloves, and one pint of Tarriffé wine; mix together and shake it well. Take a wine-glass every two hours after the fever is off.

Before taking the above, a dose of Epsom salt or other medicine, should be administered, to cleanse the stomach, and render the cure more speedy and certain.

## Remedy for Burns and Scalds.

of the simplest, readiest, best and cheap-  
edies in the case of such accidents, is soft

It ought to be applied *at once*, to the  
and bound with a linen or cotton rag,  
ever removed or unbound "to see if the  
is healing," or to wash it, as is so com-  
done; in four or five days the sore will  
ed up, and nature will of itself throw off a  
bove which the cotton will be found ad-  
; no oil or anything else ought to be ap-  
A great advantage in the cotton is, that

few minutes, removes all pain and heat  
he wounded part, and so prevents inflam-  
, which circumstance (along with its pro-  
qualities from cold,) is in fact the true  
of the remedy. Try it! but remember it  
little or no good if only applied a day or  
er the accident. It must be done imme-  
, and never be disturbed till it comes off of

This remedy was accidentally discovered  
English cotton factory.  
young child being scalded very severely,  
larly about the neck, was, while screaming  
ying in great agony, laid down by its mo-  
a heap of cotton, till she ran for a sur-  
on his arrival he found the child sleeping  
and soundly, and part of the cotton ad-  
to the wounds. He being a man of piety,  
uch struck with the contemplation of such  
t, and took great pains to keep the cotton  
neck of the little creature, by immedi-  
ging up the wounds thoroughly imbedded in  
d not allowing the dressing to be taken  
for nearly a week, at the expiry of which  
the cotton in the hands of nature had done  
rk, and *the cure was complete*. Who can  
that Providence does not overrule even  
st minute circumstances for our well being?

Remove Tar, Pitch, or Turpentine.—Scrape  
much as you can; then wet the place thor-  
with good salad oil, and let it remain for  
four hours. If linen or cotton, wash it out  
sing warm soap-suds; if woollen or silk, take  
e oil with ether or spirits of wine.  
The stain is of tar, you may remove it (after  
ing and wiping,) by using cold tallow instead  
et oil. Rub and press well on the spot a  
ump of good tallow, and leave it sticking  
till next day. Then proceed as above.

*The Honest Boy.*—Two boys were one day on  
their way from school. As they were passing a  
corn field in which there were some plum trees  
full of fine ripe fruit, Henry said to Thomas—

Let us jump over and get some plums. No  
body will see us and we can send a ng through  
the tall corn, and come out safe on the other  
side."

Thomas said—

"It is wrong. I do not like to try it. I  
would rather not have the plums than steal  
them, and I will run along home."

"You are a coward," said Henry. I always  
knew you were a coward; and if you don't want  
any plums you may go without them; but I shall  
have some very quick"

Just as Henry was climbing the fence, the  
owner of the field rose up from the other side of  
the wall.

Henry jumped back and ran off as fast as his  
legs could carry him.

Thomas had no reason to be afraid.

So the owner of the field, who had heard the  
conversation between the boys, then asked  
Thomas to step over and help himself to as many  
plums as he wished.

The boy was pleased with the invitation and  
was not slow in filling his pockets with the ripe  
fruit now honestly come by.

Which of those two boys were brave—the one  
who called the other a coward, but ran away  
himself, or the one who said that he was afraid to  
steal, and stood his ground?

*A Persian Fable.*—"A young fox asked his  
father if he could not teach him some tricks to  
defeat the dogs, if he should fall in with them.  
The father had grown gray in a long life of de-  
predation and danger, and his scars bore witness  
to his narrow escapes in the chase, or his less  
honorable encounters with the faithful guards-  
ans of the henroost. He replied, with a sigh, 'After  
all my experience, I am forced to confess that the  
best trick is, to keep out of their way.'"

Let all our young friends be cunning as foxes,  
wise as serpents, and harmless as doves, in keep-  
ing teetotally out of the way of their deadly foe—  
intoxicating liquor."

*Talents.*—Dig them up—bring them to the light  
—turn them over—polish them and they will give  
light to the world. You know not what you are  
capable of doing; you cannot sound the ocean of  
thought within you. You must labor, keep at it,  
and dig deep and long before you will begin to  
realize much. Mourn because you were not creat-  
ed a giant in intellect, and you will die a fool.

*Printed Thoughts.*—A printed thought never  
dies. Nothing is so indestructible. The proudest  
work of art crumbles to dust, but the eloquent  
thought lives, and will live down to the end of  
time.

## LADIES' DEPARTMENT.

## I. VEGETABLE, FRUIT, AND FLOWER GARDEN.

I shall suppose that the garden has been laid out either at right angles or otherwise; that the paths and walks are made high and dry, and are well gravelled; that the ground has been drained, if such be necessary; that the soil has been thoroughly manured, especially for vegetables; and that it has been properly prepared by deep, or trench digging, all which operations the gallantry of the rougher sex of the household will have caused them to do, with much pleasure and delight, and for which they have received ample payment in one of your sweet smiles. And further, I shall take it for granted that our lady gardener is in possession of the necessary implements, such as a small spade, hoes, both draw and thrust, (or what in Britain are called the common Dutch hoes,) rakes, large and small, watering-pans, &c., and of a choice collection of new, perfect and genuine seeds. I then remark with Mrs. Loudon, that the seeds should be firmly imbedded in the soil, so that there may be "that degree of permanence and stability which is essential to enable nature to accommodate the plant to the situation in which it is placed;" next that they must be so covered, "as to exclude the light which impedes vegetation, and to preserve a sufficiency of moisture around them to encourage it," but they must not be buried so deeply "as either to deprive them of the beneficial influence of the air, or to throw any unnecessary impediments in the way of their ascending shoots." I shall speak of the useful before the agreeable, and recommend that you ought to have a *constant succession* of crops of vegetables, and never to let a plot of your ground, however small, lie unprofitable; taking care, however, not too crowd the plants too much together. In the knowledge of these truths, in fact consists one of the greatest points of successful vegetable culture. You probably know well enough the kind of seeds which ought to be sown early in spring. I may however enumerate some which, as our season is so very backward, may yet be sown, though the first crops are generally put in, in March or April.

*Vegetables.*—Onions may yet be attempted, spinage, all summer; cabbage, brocoli of various sorts, and cauliflower in beds, for late planting out; peas of different kinds, all summer, particu-

larly the *Scymeter* pea, if to be got; \* bear various kinds, carrots, turnips, lettuce, radishes, melons, cucumbers, beets, potatoes, &c., now ought to be sown and planted; cabbage in rows 16 to 18 inches wide; cauliflowers, brocoli, (of the latter, the purple and white amongst the best,) giving them more room for cabbages, as when planted too close, they all to leaves and have no heart; potatoes, should be planted, and whatever vegetables require to be earthed up, should be sown or planted in rows. Steeping seeds for a few hours previously to sowing, in a solution of saltpetre, guano and water, or any ammoniacal water, cause them to germinate free and speedily, and may be of some advantage in this late season.

*Fruit.*—No garden ought to be without grapes, berries, currants, (black, red, and white,) strawberries and strawberries. The plants of these are not very expensive, and may yet be planted if you have none already set. Apples, peaches, cherries, plums, peaches, &c., all thrive well in Canada, and produce abundant crops. An assortment of these ought to be in every garden or orchard.

*Flowers.*—Are peculiarly the objects of Ladies' care, for which they are well adapted. They are pleasant and lovely to the eye, or grateful to the smell, or to both senses; among the most general favorites are roses (of many kinds,) carnations, the delicious sweet pea of various colors, stock-jillyflowers, wall-flowers, sweet-williams, violets, pansies or hearts ease, pinks, carnations, primroses, daisies, ranunculuses, anemones, auriculas, lupins various colored, kalfushias, lilyhocks, sunflowers, dahlias, calceolarias, thymus, flushias, Indian cress tulips, and many others which need not be particularly enumerated; these will fill up a pretty good sized flower-pot; the keeping which in neat order will be a pleasant and healthy occupation, in many a leisure morning or evening hour. Should it be practicable, I would strongly advise your having a tasteful, ornamental and nicely shaded summer seat or bower adjoining your flower-plot, in which climbing plants, such as honeysuckle, shire and monthly roses, the passion flower, nasturtiums, &c., ought to be kept properly trained.

\* To prevent peas being eaten by mice, bury them for a day or so in train oil, which will retard their vegetation, and render them obnoxious to mice; mixing some barley awns or beards with the peas, is also a preventative.

The walks leading to your bower, and the ground near it *must* be kept in a state of the greatest neatness, so that every thing may tend to pleasing contemplation. In such nice little retreats, the feelings and emotions of the mind, if our hearts be right, are peaceful and serene; and the Word of God can be well studied, and his wonderful works contemplated and enjoyed in the beautiful productions of his creation around us. The near neighborhood of a 'pretty meandering stream,' does not detract from, but on the contrary, adds to our enjoyment, in no slight degree.

## II. BUTTER MAKING.

In the introduction to the article on cheese-making, in the March number some observations will be found, which are equally applicable here, for there is not a doubt but that butter if judiciously prepared, will by and bye, be an article of large product in Canada, both for home consumption and export. The import of butter into Great Britain is very great, and the making of it to supply that market, is well worthy of attention in this country, especially now that the duties are much reduced. To go to the very foundation or root of the subject, it may shortly be remarked: 1st, that every cow does not produce equally rich milk, or an equal quantity of it as does another, and consequently not so rich and abundant a supply of butter; and 2nd, that one kind of food is to be preferred over another, to enable the animal to produce that supply. The kinds famed as milk and butter cows, such as Alderneys, Ayrshire, Durhams, &c, may be hinted at; and of food—clover, and vetches in summer, good hay, and turnips, in winter, with pure running water, and a supply of salt, may be particularised; but into these subjects it may be as well not to dip too deeply in this department, lest the Lords of the Creation! complain that their domain is trespassed on. Yet the ladies ought to know, that one kind of cow, as well as one kind of food, is not equal to another. But let it be supposed that the cow and the pasture, and a *clean*, warm and airy cow-house (in which the cow ought to be tied up, in *cold wet weather*, at whatever season,) are provided; the next thing to be attended to is the dairy and utensils. The one may not be very large, nor the latter very numerous, (whether they be so or not, the following remarks will be equally applicable,) but the greatest attention and care ought to be given to their being particularly neat, and *thoroughly sweet and clean*:—

Mr. Johnson, an American writer, who lately visited the great dairy Counties of England, says "one great principle pervaded them. The first and second and last thing in the English dairy was, *neatness*. Every thing about them was neat, and nothing unsavory was allowed to be there. This extended to the care and keeping of the cattle, and he had seen many stables, where the cattle were kept with the utmost nicety. This was a principle with the English in the manufacture of butter and cheese, and it would be in vain for our farmers to seek there a market for these commodities, unless these excellent qualifications had a rigid compliance."

Mr. Colman remarks that "the Devonshire butter is almost universally made by first heating the milk, just so much as to cause the escape of the fixed air. In twelve hours the cream is all brought to the surface, and in a state of consistency to be easily taken off. It is a disputed point, whether as much butter is obtained in this way as by the ordinary mode of letting it stand, without being heated, a much longer time. The butter is thought to acquire in this way a peculiar taste, but it is by no means unpleasant. The skimmed milk remaining is perfectly sweet, and appears the richer for being heated. In this way is obtained the famous clotted cream which is to be found on the hospitable tables of Devonshire, and is a great luxury.

Glass milk-pans made of bottle glass, are much approved, and with proper care, are in no danger of being broken. They recommend themselves by their cleanliness and incapacity of rust, or corrosion, or decomposition. In some dairies I found shallow leaden troughs used for setting the milk, with a tap at the bottom, so as to draw the milk off and leave the cream. Some persons maintain that, the more shallow the pan, the more cream in proportion will be obtained." In some of the chief dairies in Scotland, an opposite method is adopted. Zinc pans or dishes for holding the new milk, were at one time recommended, on the supposition that thereby more cream was thrown up, but such a notion is now a good deal exploded.

The Dutch, who are particularly famous for their delicious butter, are most attentive to neatness and cleanliness in the most minute points in the process of its manufacture; in their cow-house, their dairy, and their utensils. Many ladies in Canada are not only well acquainted with these facts theoretically, but they put their knowledge to practical use, and their reward is having butter, either for family use or for sale, or for both, not to be surpassed, as far as these qualities are concerned; others, again, forget, or have never perhaps been taught their absolute necessity. The latter ladies ought to learn a lesson from these short hints, and should immediately *turn over a new leaf*. The butter season

is at hand, and no time is to be lost. The Provincial, the Home, and other Societies, give premiums for the best cured butter, and it would be pleasing if any advice given in this paper should be the means of inducing ladies to compete, and of enabling them to win the prizes.

The 1st general remark to be made is, do not use water which contains lime, to wash your utensils, for lime is prejudicial.

2nd. When the cow is being milked, take good care that she has something to feed on, such as hay, cabbage leaves, &c. This serves two purposes: First, it causes the animal to stand quietly, and Second, it makes her allow the milk to come more freely from her, so that she can be more *cleanly milked out*. "Some cows (says a Scotch Ayrshire Dairy Farmer) give their milk very freely when the udder is full, and yet become very stiff to draw near the end. When their attention is excited during the operation of milking, they will still be suffer near the close; but it is of the greatest importance that a cow be clean milked, because if she is not, *what remains coagulates in the udder, and you have gradually a less quantity, till the cow becomes dry altogether*. In large dairies, the mistresses are so sensible of what may be lost by neglect in this way, that they either try the cows themselves, after the servants have done milking, or they have an after-woman, on whose abilities they can depend; and the milk thus obtained is called after-milk, and is, from its tendency to coagulation, nearly as thick and rich as cream. You will, therefore, pay particular attention to have your cows milked perfectly clean."

He also recommends cabbages, turnips, potatoes and carrots, as food for cows, during winter, and that some part of these ought to be boiled and mixed with chaff or mill seeds; and one meal per day, given along with oat-straw or hay; coarse ground unsifted bean or pease meal is also much used for cows in Ayrshire, which makes the produce much richer, and in greater abundance. Two handfuls mixed with the boiled food, is sufficient for one cow daily. (See on Mangel Wurzel, Parsnips, &c., pages 130, 131)

3rd. The milk ought to be *nicely* strained and placed in a cool place, and when the cream has properly risen, it ought to be separated from the milk. Thus, and the process of churning need not be described. A *true saccharus* will prevent froth from rising in the churn.

4th. Previous to salting, *every particle* of butter-

milk must be extracted from the butter. There are two modes of doing so, each of which has strong supporters. The one is, frequently and thoroughly to *wash* the butter with cold water, till there is scarcely any white color in the water; the other is to press and squeeze it with *the hands*, or otherwise, and use *no* water. The first method has the most cleanly appearance, but in some states of the weather, it is believed that the other is preferable, and its advocates (and consequently opponents of washing) assert that the saccharin matter contained in good butter, which constitutes the sweetness and delicious flavor, is extracted and destroyed by washing. If water is used, it may be stated that, in this part of the process also, water which contains lime ought to be avoided on account of its being prejudicial both to the taste and keeping quantities of the butter. As to whether pressing and squeezing, or washing is the preferable method, ladies may amuse themselves by trying experiments, which they can easily do at little trouble, and no cost. It may here be remarked that butter cured by the one method has been found quite equal to that prepared by the other, so that "this long mooted point is (says the Editor of the *American Monthly Journal of Agriculture*,) yet in obedience." Cannot some of our ladies decide it!

5th. *Salting*.—This part of the process is frequently very carelessly done, and yet it is of the greatest consequence that it ought to be quite otherwise. The kind and quality of the salt, and the quantity to be used, should be minutely attended to; one ounce of salt to the pound of butter is quite enough, and no saltpetre need be used. Mr. Johnson remarks, that in England, the great objection to American butter was, "that it was *salted too much*. The English had seen but little of our good butter. Most have reached their country under the denomination of grease. Even with us, the proportion of salt is often so great that with the butter we take in our mouths comes a lump of undissolved salt. Such carelessness must forever destroy our hopes of a market in Great Britain."

There is, at the moment this article is being written, on the breakfast table, a piece of butter purchased in the Toronto market, the quality of which is excellent, and it appears to have been well made up in every way, except in the salting. It has the appearance of being covered with sprinkling of ice, which ought never to be there.

...e, for the salt ought to be so well pounded or  
ashed, as to incorporate thoroughly with the  
ter. A little fine sugar mixed with the salt,  
of benefit—but this is another subject of con-  
versy, and ladies can therefore judge for them-  
selves.

*This subject will be continued in next number.]*

#### III. ON THE KEEPING OF EGGS DURING WINTER.

This is a matter of considerable, nay, material  
moment for good housewives to be well ac-  
quainted with; not only as they can thereby add  
much to the comfort of their families in the un-  
productive season of the year; but also as being  
a plan by which they can, in an easy and  
highly creditable manner, *increase the contents*  
*of their own purse*, at the merry Christmas time!  
The season is now at hand in which the means  
of accomplishing these two interesting matters  
are put to the test.

There is a great deal of truth in the subjoined  
article quoted from the *Prairie Farmer*; it is  
probable that a similar result to that from pack-  
ing in salt, though not perhaps in so extensive a  
degree, would also follow the application of the pack-  
ed mixture alluded to. Keeping this in view,  
and the absolute necessity of the eggs being *per-*  
*fectly fresh*, and the fact of the shell being *porous*,  
the following recipe of very simple and easy appli-  
cation, and of the cheapest and most effectual kind,  
here inserted, followed by the article alluded  
to, so that ladies may judge for themselves as to  
which to give the preference:—

*1st. Original Recipe*—Dip a number of eggs  
in water so moderately hot, that you can allow  
your hand to be immersed in it without being  
burned, and let them remain about a minute, so  
that the pores may be gently opened. *2nd.*  
Take them out one by one, and wipe them clean  
and dry. *3rd.* Immediately take (or let another  
person assisting you take) a piece of the finest  
soft butter, of the size of a large marble, and rub  
it well with your fingers all over the egg. *4th.*  
Wrap each egg sufficiently in a piece of old news-  
paper, or other soft paper. *5th.* When you have  
this done, place them gently on their small  
ends in a well made jar or air-tight cask; if laid  
on their side, the yolk is apt to fall down, and  
stick itself to the shell, and so become a kind of  
curd, as you must have observed. *6th.*  
When your jar or cask is full, cover the top well  
with a piece of skin, wood, or other stout mate-  
rial, so as to exclude the influence of the at-*mos-*

phere. In this way, if the above directions be  
*minutely* attended to, it is guaranteed that eggs  
will keep many years. As a proof or instance in  
point, they have, thus prepared, been taken out  
to the East Indies from Scotland, and found quite  
fresh; and after a lapse of three years, a few of  
the lot that chanced not to be used, were found  
equally so, on being taken "home" again.

#### *2nd. Prairie Farmer's remarks:—*

"The papers annually contain a variety of  
recipes for keeping eggs safely through the sum-  
mer—some recommending lime, some salt, and  
some different mixtures, for this purpose. None  
of these mixtures should be depended on, unless  
certain preliminaries are attended to. The na-  
ture of the egg itself, and of the shell in which it  
is enclosed, must be understood. An egg is an  
animal substance, and all such substances corrupt,  
on being exposed to the air, in a shorter or longer  
time, according to its heat, moisture, and electri-  
cal condition. To prevent the putrefaction of the  
egg, it must be kept from the free ingress of air,  
and surrounded with some antiseptic substance.  
The shell is not a tight, but a porous matter, al-  
lowing the transmission of water and air with some  
degree of rapidity. Hence when the egg is ex-  
posed to the atmosphere, its juices are gradually  
evaporated through the shell, and their place sup-  
plied with atmospheric air; and decomposition  
gradually takes place. If to prevent this it is  
packed in salt, so much of the latter will be ab-  
sorbed as to render it uneatable.

Eggs that are to be packed should be of good  
quality. There is as much difference in the rich-  
ness and flavor of eggs as there is in those of beef  
or mutton. A fat, full egg is more likely to keep  
well than a poor one. Then they should be  
packed when fresh. If they are kept till half  
spoiled before being packed, it will be a miracle  
if they are preserved well, however well put down.  
Then they should be packed with the small end  
down. The yolk is inclined to settle on the shell;  
and when this is the case, it is apt to spoil. The  
better way is to turn the cask occasionally from  
one end to the other. The cask, too, should be  
a tight one.

The editor of the *Boston Cultivator* recommends  
from trial the following: Put into the cask a  
layer of plaster of Paris—first covering the bottom  
of the cask with plaster—and then alternate layers  
of each in such a manner, that one shell shall not  
touch another. He states that he has kept them  
in this manner a year perfectly good.

#### *Patent mixture used in England.*

One bushel quick lime,  
2 lbs. salt,  
 $\frac{1}{2}$  lb. cream of Tartar,

mix the same together with so much water as will  
reduce the composition to consistency that an egg  
when put into it will swim. It is said that eggs  
have been kept in this way sound for two years."



## IV. Hints for Young Ladies.

If any young woman waste in trivial amusements, the prime season for improvement, which is between the ages of sixteen and twenty, they regret bitterly the loss, when they come to feel themselves inferior in knowledge to almost every one they converse with: and above all if they should ever be mothers, when they feel their inability to direct and assist the pursuits of their children, they find ignorance severe mortification and a real evil. Let this animate their industry, and let a modest opinion of their capacities be an encouragement to them in their endeavours after knowledge. A moderate understanding, with diligent and well directed application, will go much farther than a more lively genius, if attended with that impatience and inattention which too often accompany quick parts. It is not for want of capacity that so many women are such trifling insipid companions, so ill qualified for the friendship and conversation of a sensible man or for the task of governing and instructing a family; it is often from the neglect of exercising the talents which they really have, and from omitting to cultivate a taste for intellectual improvement; by this neglect they lose the sincerest pleasures, which would remain when almost every other forsakes them, of which neither fortune nor age can deprive them, and which would be a comfort and resource in almost every possible situation in life.—*Mrs. Chapone.*

v. *Woman.*—How valuable are woman's labors as mother, nurse, and teacher, so much so that the two sexes are like the date tree; the male plant produces flowers only, the female fruit. We should remember, too, that Adam was created out of Paradise, and Eve in it, and something earthly therefore, still clings to Adam's race. Even in the heathen mythology, we find that though the gods often transformed themselves into beasts, the goddesses never did.—*Niag. Chron.*

The Ladies' Department must of necessity be a kind of *medley*, and the following, said by the *Niagara Chronicle* to be improved from an American paper, is given to amuse the ladies. Every true lover of the sex knows well, that the first view is the rule, the last the exception from it —

## VI. The Wife.

She clung to him with woman's love.

As ivy to the oak;  
And on her head with crushing force,  
Earth's churning tempest broke.

And when the world looked cold on him,  
And blight hung o'er his name,  
She soothed his cares with woman's love,  
And bade him rise again.

When care had furrow'd o'er his brow,  
And clouded his young hours,  
She wove, amidst a crown of thorns,  
A wreath of love's own flowers.

And never did that wreath decay,  
Or one bright floweret wither,

For woman's tears e'er nourished them,  
That they might bloom forever.  
'Tis ever thus with woman's love—  
True till life's storms have pass'd,  
And like the vine around the tree,  
It braves them to the last.

## The Wife.

## The other side of the Picture.

She clung to him with woman's hate,  
And frowned when'er he spoke,  
Whist o'er his head, with crushing force,  
She many broomsticks broke.

And when the world looked cold on him,  
And not with ruda disdain,  
She dressed his hair in woman's style—  
A poker o'er his brain!

When care had furrow'd o'er his brow,  
And clouded his young hours,  
She wove amidst his crown of thorns,  
A wreath of nettle flowers.

And never did that wreath decay,  
Nor fade one floweret, never;  
For woman's wrath aye nourished them,  
That they might bloom forever.

'Tis ever thus with woman's hate,  
To him she's wedded fast;  
If he's a weak submissive wretch,  
She'll trounce him to the last.

*Time.*—God who is liberal in all other gifts, shows us, by his own wisdom and economy, how circumspect we should be in the management of our own time, for he never gives us two moments together. He only gives us the second when he takes away the first, and keeps the third in his own hands, leaving us in absolute uncertainty whether it shall become ours or not!

“Those nations which are most distinguished for their love of husbandry, whether of the garden or of the fields, have been most prosperous.”

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