

the third year the ichneumons appear in equal myriads; every caterpillar is more or less affected by them, and you see them by the thousand languishing and dying with the cocoons of the ichneumon worm projecting like spines from every part of their bodies. The next year there are no caterpillars, but monstrous quantities of ichneumons, and they perish for want of their usual sustenance. The year after there are again a few caterpillars, then more, and then the same round of ichneumons destroying them. Some years there will be a pause, caused by the peculiarities of the season, but this is the course run, with few exceptions. The same effect is produced by time and succession of season, on the ridge. In many places which were formerly devastated, it is now scarcely known, whilst in others, the pest is in existence, and will remain for its allotted time in full force.

There is no doubt that deep ploughing, and a proper period of rest afterwards, will greatly alleviate the plague, but until all will and can act in concert, it will never be destroyed out of the regular course of nature, in the manner before shown.

Results of Flax Culture.

To the President of the Board of Agriculture :

SIR,—The Annual Provincial Exhibition being now at hand, I deem it my duty to furnish you with a brief statement of facts in connection with the progress and great importance of Flax culture in this Province. I have the honour of stating the success of farmers who have made the trial this year. In nine cases out of ten they have more than realized their anticipations, while those who have been less successful do not feel discouraged, but intend giving it a more favorable trial next year. The expense of labour attending this crop has hitherto been an obstacle in the way of the farmer going into its growth as extensively as he might otherwise do; and for the benefit of those who may yet be in doubts about its being a profitable crop, with the least amount of labor, I will endeavor to put in as brief terms as possible the statements of a few who have certified to the facts, in writing, which can be produced if necessary. A party who resides on a farm on the Lake Shore, within a short distance of Port Credit, states that he was paid for seven tons of flax, with seed on, at the mills of Messrs. Gooderham & Worts, Streetsville, the sum of twenty-eight dollars, the produce of two and a half acres of rich flats, having been previously in sod; and after only one ploughing, harrowed in the seed; hence the above produce was within a fraction of \$10 per acre. Another statement from the pen of Messrs. Gooderham & Worts, shows the produce of 27 acres to be 56 tons, and as in the former case, with seed on, at \$14 per ton, produced the net sum of \$781, or at the rate of \$29 per acre. In order that farmers may see the exact sum each item of labour and seeds costs, I annex a statement in plain figures. The greater part of this land was also sod, and received but one ploughing. It may be observed here that this was also a rich piece of flats, near the river Credit, in the County of Peel, on the farm known as the "Meadowville Farm."

By 56 tons of Flax at \$14 per ton,	.....	\$784 00
Dr.		
Ploughing & sowing, 27 acres at \$1 05,	.....	\$28 35
Harrowing and rolling three times, 75c,	.....	20 25
1 1/2 bushels seed to the acre at \$2,	.....	54 50
Harowing after sowing, 20c per acre,	.....	5 50
Pulling and blading, \$4 per acre for the 27	.....	108 00
Hauling 3 miles to mill,	.....	40 50
Showing a profit of	.....	613 50

On the 27 acres, or in other words the sum of \$17.53c per acre. Some parties have had four tons to the acre. In Halton and other counties, three; but a safe estimate throughout, will be two tons, and the number of acres in Upper Canada from 10 to 15,000 in all, showing an amount at \$28 per acre, equal to the sum of \$120,000. It is here most important to notice that a large amount like this paid into the hands of the farmers so early in the season before they have time to convert any other crop into money, is of immense value to them in carrying out their harvest operations. Many presume if they commence growing flax they must give up wheat-growing altogether, but this is not so. For sake of argument, suppose there were 5 acres planted on every hundred to the extent of some twenty of the front townships, where there are something like 40,000 acres of arable land in each township, that would give us 40,000 acres of flax at the remunerative price say of \$28 per acre, the sum of \$1,120,000 would be realized. This may be extended over a much larger range of townships in time, and I have no doubt it will.

We will now turn our attention to the effect on the country of having a large quantity of raw material manufactured into marketable goods. Before going into minute calculations on this branch of the

project, we will illustrate the difference in the same amount of capital expended in the purchase of wheat and converting it into flour. We will take in round numbers \$20,000, invest it in wheat, send it to mill, have it ground, and no one is the wiser, other than the merchant, who first makes the purchase, the miller who grinds it, and the few teamsters who haul it to the nearest point for shipment, and there is an end to it. But let the same amount be invested in the purchase of flax, and before it can be brought into market an outlay of at least ten dollars an acre is required to convert the raw material into marketable goods, this amount is spent in the neighborhood in the employment of a class of the community who could earn little at any thing else, as the younger classes are competent to do a vast deal of the labour belonging to this branch of agriculture. In spinning and weaving there is also an additional amount of labour required, which causes a large expenditure. At Streetsville, where the latest move has been made in this direction, and a large amount of capital employed by the enterprising firm of Messrs. Gooderham & Worts, in the flouting mills, the works are carried on by a few hands, whereas at the linen factory and flax works, with a similar capital, some 100 or 150 hands are employed, and most of them learn the trade, and become adepts at the business. At all the other works now in a state of advancement, viz:—Norval, the Messrs. Perrine, county Waterloo, those of Messrs. Elliot & Hunt, of Preston, the mills at St. Mary's, and others of less note, are busily engaged this season, and a large number of hands find ready employment.

Finally, Sir, the prospects for this new branch of Canadian industry are most promising; not only as a source of wealth to the farmer, but the manufacturer in the face of his large outlay for machinery, &c., likely to have the most favourable results from the high price he is able to realize from his sale, and the demand for every description of linen goods in our own market; therefore this new project is well worthy the attention of the Board of Agriculture, as well as the Legislature; "being yet in its infancy, only requires to be fostered and brought permanently under the notice of the public, especially parties of enterprise who have capital to invest. I would take the liberty of suggesting the great advantage to be gained by importing a quantity of "Riga" seed, either by the Board of Agriculture, or by the Government, which may be done through the Bureau of Agriculture, Quebec; as it is well known in all flax growing countries that fresh seed is always sought after. The kind in general use is "Riga," so favorably known in Ireland and other flax growing countries. This having been already tried by practical parties on a small scale in Canada, the produce of fibre was found to be, under the same cultivation, not less than six inches longer than that produced from native seed. This would only require to be done one year, as it is good for three generations, by using care, like all other crops to change from one locality to another. This seed could be put into the hands of the various millers already engaged in this business, and distributed to advantage among the farmers, the first cost would readily be obtained, and could be refunded, either to the Government or Bureau of Agriculture. The example has been set by the State of New York granting \$20,000 for the encouragement of the growth of flax in that State alone; and one of the leading linen manufacturers in Paterson, New Jersey, has been allowed to bring in machinery duty free from Ireland, to encourage this new and valuable branch of manufacture. While this is being done by our neighbors on the other side of the lines, we should not be behind in Canada. It is also desirable that information, either in pamphlet form, or by lecture, should be kept before the public, with a view of keeping their attention directed to this crop, all of which will tend to make a wider field for emigration, and create internal wealth in the country.

It may now be safely said the flax project is a perfect success, although the number of acres did not reach the amount expected this year, the number of tons will far exceed that of any former year, and will be followed up with a great excess in acres this coming spring.

The applications made from time to time for information on this subject, both by letter and personally, are largely on the increase, and those intending to put up additional scutching mills are numerous, so that in the future it will be no new thing to hear of a scutching mill being erected, or a linen manufactory established in any part of Canada, with prospects so flattering as they appear in any branch of agriculture this season, with peace and plenty at every door, and the bountiful hand of a kind Providence smiling upon us in this the land of our adoption.

JOHN A. DONALDSON,
Govt. Emigration Agent.

Toronto, Sept. 19th, 1865.

The Potato--About its History, Value, and Culture.

THE Common Potato, (*Solanum tuberosum*), is ascertained to be a native of South America, it having been found both in Buenos Ayres and in Chili. It is peculiar to a hilly and rocky soil, and flourishes near the sea shore. At the time of the discovery of America it was undoubtedly grown in the Andes of S. A., although unknown in Mexico, and only shortly after in the United States. The first colonists sent out to Virginia by Sir Walter Raleigh, in 1584, found it growing wild in that State. The wild potato has white flowers, its tubers are small, rarely attaining a length of two inches, and have an insipid taste. From these, by judicious cultivation, have sprung the almost innumerable varieties at present cultivated, and adapted to all climates and sections of the inhabited world. From Virginia it was introduced into England and Ireland in 1586. It was first planted by Sir Walter Raleigh on his estate near Cork; its first production was cherished and cultivated for food in that country before its value was known in England. In 1597 Gerard had this plant in his garden under the name of *Battata Virginiana*, and advised it to be eaten as a delicate dish, not as common food. In the seventeenth century it found its way over the rest of Europe, but its fullest reputation was not obtained till the nineteenth century, when its innumerable varieties shed their blessings on all the nations of the civilized world.

The potato is one of the most important farinaceous plants ever given to the world. There is no article of human diet that enters so generally into consumption, and from no crop that can be grown will the public derive so much nourishment as from this esculent. It is not only nourishing and healthy, but relished by nearly every one. We can in a measure comprehend its importance as food, when from its partial failure through disease or rot, as a few years since was the case in Ireland, starvation stared the inhabitants in the face, causing untold misery and distress. But for foreign supplies of food, actual starvation and death would have been the necessary consequence among a large percentage of the people. It would then seem that it should become a matter of much importance to nourish and cultivate with the nicest skill, a plant of such value in the domestic economy of man.

It would be vain in me to attempt to give particular rules for cultivation which might be universally correct; for what might be suited to one locality, or circumstance might, under different circumstances, in different localities, prove entirely unsuitable. A few things are agreed upon as applicable and should be followed everywhere. Potatoes flourish and give the best returns on high, rather dry ground, in good heart and tith, mellow soil; plant early; if manured in hill, good compost, well rotted and fine, is as good as anything, and vastly superior to fresh yard manure, which is, of the two, injurious to the crop; low instead of high hill culture; no working among after blossoming; dig when fully ripe, not leave them in the ground through the fall rains, allow them to dry so that the dirt will fall off before picking up; store them in a dry airy cellar in small instead of large bulks; keep at as low, even temperature, as practicable without freezing. These general rules if followed will give results that will satisfy the most particular, in the opinion of the writer who has seen them tried.—*Cor. Rural New Yorker.*

GRAIN that has been injured and become musty, may be restored to nearly its original sweetness by pouring boiling water over it, and permitting it to stand till cool. The scum which arises to the surface of the liquid during the process of purification, should be carefully removed. Unless the gluten of the grain has become chemically affected—which is rarely found to be the case, except in very old grain—every trace of mustiness will be removed, and the grain rendered fit for use.—*N. E. Farmer.*

GRAND FARMING.—The *New York Post* notes a corn field of one hundred and sixty acres, on the grand prairie, in the plowing, planting and cultivation of which no man walked a step. A rotary spader, drawn by four horses, and driven by a man upon the box, plowed the field to a uniform depth of eight inches, and gave such thorough tith that it was not necessary to use a harrow at all. A cornplanter, drawn by two horses, and driven by a man upon the box, next planted the seed. A cultivator drawn by two mules, one walking on each side of the knee-high corn, and driven by a man upon the box, completed the culture of a row at a single operation; and in the tool-house lay another machine, also to be drawn by horses, which will cut down the corn when it is ripe and lay it in regular rows, to be finally gathered by hand. But it is expected that by next year this machine will be so improved as to gather up the corn also.