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A Thanksgiving Time.

In recognition of the beneficences of the past year, Thursday, October 19th, has been proclaimed by the Government of Canada as a day of national Thanksgiving, in which those engaged in the pursuit of agriculture have many and good reason to participate. The change from depression to prosperity has been so steady and so quiet, without artificial stimulus, or what is called booming, that people are apt to take it all as a matter of course, and forget to manifest a due spirit of thankfulness.

Referring to the general condition of affairs existing, the people of the Dominion should be profoundly grateful that peace and plenty prevail. Other countries have been visited with plague, bloodshed and disasters, many of them frightful and farreaching, but Canada has been spared, though it is a matter to be deplored that the shadows of war have lately gathered in the South African portion of the British Empire. Our relations with other countries have been agreeable, probably the only approach to friction being in regard to the Alaskan boundary, where the acquisitive characteristics of our neighbors have come unpleasantly into play: but let us hope the principle of equity will mutually prevail. In the minds of men who desire the wellbeing of humanity and the progress of Christian civilization, such matters should be so adjusted as not to interfere with the relations of those great, dominant Anglo-Saxon and other communities now leading the world's van.

Another abundant harvest has been garnered. From the sounding shores of the Maritime Provinces across the land of the Habitans, from Ontario's fertile fields, and the matchless wheat-producing prairies of Manitoba and the West, and the rich valleys and fruit-laden slopes of the Pacific Coast, comes everywhere the message that there is enough and to spare of grains, fruits, animals and their products to feed our own increasing population and multitudes in other lands. Not only so, but the prevailing conditions of demand, and the facilities for improved transport from producer to consumer, are now such as to have enhanced the value agricultural products, giving the farmer and stockman good prices and a much greater return for their labor and intelligence, which will more than compensate for the increasing price of all machinery and materials into the composition of which iron enters. To the breeder of pure-bred stock, it has been by far the most satisfactory season for many

It is a matter for devout thankfulness, that our people are beginning to realize—as sooner or later all must by the trend of circumstances—that in no department of industry is intelligence more essential to success and more certain of its reward than on the farm. He who would succeed, must study the divinely-ordered conditions, adjust his operations accordingly, get in harmony with the inviolable laws of nature-in other words, farm scientifically, whether he acknowledges it or not; or else he must fail and go under. It is inevitable that the fittest will survive. Hence, everywhere we find the Canadian farmer becoming a close observer, a student of agricultural literature, scrutinizing the investigations carried on by specialists at public institutions, such as our experiment farms, and a patron of agricultural colleges, schools of dairying and horticulture, and farmers' institutes. Here and there we find men who affect to despise these things, and yet may be doing fairly well. But why? Not because of ignorance, but because they are carried along unconsciously with the general current of progress, by very force of the example of other men about them. In the industrial world the great characteristic of the closing era of the 19th century has been the applying of mechanical forces, and concentration; so in the agricultural world it

has been the utilization of machinery and the application of scientific intelligence to physical effort.

Edwin Markham, a poet, whose name has recently sprang into notoriety by reason of the striking virility of his writings, after gazing upon a painting by the French artist, Millet, of an European peasant farmer, embodied his conception in a poem entitled "The man with the hoe," which opens with the following lines:—

"Bowed with the weight of centuries, he leans
Upon his hoe and gazes on the ground,
The emptiness of ages in his face,
And on his back the burden of the world.
Who made him dead to rapture and despair,
A thing that grieves not, and that never hopes,
Stolid and stunned, a brother to the ox ?"

As an embodiment of the general and dominant type of the Canadian farmer, let us be profoundly thankful that the "Man with the hoe" is a hideous caricature—a dark and grotesque impossibility. In these bright, closing days of 1899, it comes to us as a vivid portrayal of what has been, a glance backward into the grim shadows of the past, where we see the passing of a figure that can have no place of standing amid the enlightenment of agriculture on this Western continent.

The Advantages of Underdrainage.

There are few farmers who have not learned to their cost that the early-sown grain gives the best returns. Almost every farm has some fields that are drier than others, and, of course, these are sown first, simply because they are the only ones that are dry enough to work when seeding operations commence. Where underdraining has not been practiced, it is the higher and lighter fields that are earliest, but where some draining has been done, it may be a comparatively low field that can be gone unto first thing in spring without fear of "puddling" the soil. The fear may be felt by beginners in underdraining that the removal of so much water as a good-working drain carries off will dry out the soil more than it should be, and thus make it as much too dry as it had been too wet. It should be borne in mind, however, that where a drain is laid deep in the ground the absorptive capacity of the soil is so greatly increased that much more during a dry time than heretofore, while in a wet time the surplus water, that the plants are better without, is readily carried away, so that the conditions are improved at all seasons of the year. With an underdrain four feet deep, no summer rain can soak down to the tile, and on account of the drained land not becoming baked through excessive moisture, the rain largely soaks in instead of running off the surface.

Drained soil, too, is kept just moist enough in winter to be expanded by freezing, and with each expansion its capacity to hold more water is increased. Whenever a wet place in a field is thoroughly drained, the soil over and near the drain appears to have risen. Doubtless it is the fact that water no longer covers its surface that gives this appearance, though there is, perhaps, a real rise of an inch or possibly more through the expansion by freezing of compact subsoil and by the addition of vegetable matter in the soil, derived from the greater root growth that has been permitted to go

Where clover and other deep-rooted plants are growing, water is being continually pumped from the subsoil. This is done so effectively that often the heaviest rainfall on a field of full-grown clover, the day after a rain will find the soil free from undue moisture. On cultivated land, unless there were underdrains a rod apart, much of the land would be unfit for plowing for two or three days after such a rain as would not affect the plowing for a single day where there was a good growth of clover. A grass sod field can always be plowed earlier in spring than if it had lain naked through winter. Yet, while thus plowable at all times from spring to fall, the deeply underdrained soil cannot

suffer from lack of moisture. Its absorptive capacity extends so deep into the subsoil that as the roots near the surface exhaust the moisture, more water rises by capillary attraction, and as it comes to the warmer air outside, the temperature of each are equalized, forming dew on the surface of the ground, which is often seen on newly-plowed surfaces that were dry the night before. This watering the soil by means of dew is increased in its effect by cultivating crops early in the morning and late in the afternoon, in the one case to imprison the dew that has fallen during the night, and in the other to bring to the surface some soil that, being cooler, will condense more moisture from the air, and thus increase the dewfall. Thus a well-drained deep soil receives a greater amount of fertilizing dews than a shallower soil that is quickly warmed through. Summing up all the advantages of having wet land underdrained, a farmer is acting a wise part when he takes every opportunity, that presents itself to drain all the parts of his farm that need it, as indicated by the delays in spring seeding, caused by surplus water. There is yet time this autumn to have a certain amount of this work attended to without injuring growing crops or causing inconvenience in any way. On wet fields the advantage will pay for the draining in the improved crops of two or three years.

An Example of the Development of Canada's Fruit Industry.

While some fruits, notably peaches, have not turned out as heavy a crop as usual in the Niagara, Ont., district, the past season has witnessed a steady increase in the general output. Even with peaches, many orchards in the district have produced an abundant crop, and the fortunate owners have done well, as the canning factories have paid about four cents per pound for good fruit, and the open markets have been better than usual. Few outsiders realize the immense quantities of all kinds of fruit that are now shipped from the strip of country between Hamilton and Niagara. From St. Catharines station alone during September about twenty to twentyfive carloads of mixed fruits have been despatched weekly. About 40% of this went to Montreal 15% to Manitoba, and the balance chiefly to Ottawa, Kingston and other eastern points. Most of this fruit has been sent out under the auspices of the St. Catharines Cold Storage and Forwarding Co'y, and by co-operation in this way expenses of transportation have been much reduced to the shipper. The Jordan and Beamsville section has also sent out large quantities, much of which has gone by boat to Toronto. From Grimsby, in addition to large shipments to various points in Canada, a considerable quantity has again been directed to the British markets, Manchester, London, and Bristol being the points selected. Up to the end of September about 3,000 cases (25 pounds to the case), chiefly pears and apples, had been shipped. The Government arranged the forwarding of some 100 cases of peaches, which are packed in cotton batting, and chilled before packing. Before the season closes about 2,000 more cases of apples, pears, and quinces will be sent, and the Ontario Govt. has undertaken the despatching of some shipments of the better varieties of grapes. Full reports of sales have of course not been received. Most of the fruit, however, has arrived in good condition, and as far as is known the sales for all fruit arriving in good shape have been encouraging. West of Grimsby the output of fruit has been much heavier than usual. Around Winona and Stony Creek, pears, plums, and grapes are the principal crops grown. About forty or fifty carloads went forward to Manitoba, and heavy daily consignments to the Lower Provinces, and Ottawa and Montreal. On the whole prices have been fairly good, and decidedly better than during the bigseason