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EDITORIAL.

The Crop Prospects.

Seeding in most districts of the country, although it was later this spring than usual, owing to a somewhat backward season, has been completed in so far as the sowing of grain is concerned, in short order, and under fairly favorable conditions of tilth. Moisture sufficient to germinate the seed was present in most parts, and copious rains have occurred generally over the whole country, giving the crops a good start, and now that warmer weather has set in the prospect is for a rapid growth, which, if favorable conditions continue, will ensure a good harvest. Fall wheat in many sections has been winter-killed, but it is sown only to a very limited extent in these times, and its failure does not mean the loss of a crop for the year, as in many cases spring grain or other crops have been sown on the land, and may prove fairly productive.

Pastures, if given a fair chance, should now make rapid growth, but there is reason to fear that in many instances, owing to scarcity of fodder in the barns, stock has been turned out too early to allow the grass a good start, and in such cases, unless the summer be unusually showery, the pastures will probably be short from start to finish.

It is well to provide for some green crop to feed to milking cows, especially should a time of drouth come and the pastures get short and dry. For this purpose mixed grains, as peas and oats, or vetches and oats, answer a good purpose, and the farmer who has an acre or more of alfalfa growing near his barns will find it a great boon at such a time. Fodder corn will come in well for this purpose later in the season. Doubtless the area planted to corn this year, both for ripening and for ensilage, will be larger than in former years, which will be a wise provision, as the probability is that meadows will not yield as well as in the last two years, unless the season proves like those, unusually favorable to the growth of grass. Those who failed to get ready in time for sowing a few acres of mangels will do well to prepare to sow turnips, which have by no means lost favor with farmers who feed cattle for beef, or who keep sheep. Where dairying is a specialty, and there is a prejudice against the use of turnips, owing to the possibility of their tainting the milk and butter, mangels may yet, late as it is, be sown and successfully grown on well-prepared ground, if weather proves favorable, and the same may be said with regard to sugar beets, either for sale or for feeding to hogs and cattle.

June is the favorite month for sowing rape—a crop the preparation for which is not difficult, and it is a forage crop that will greatly relieve the pastures in the fall months, while providing the very best of feed for lambs, pigs, and young cattle. It pays to make provision for plenty of succulent forage to keep the stock growing and thriving at all seasons of the year, as it is to live stock and its products that farmers in the older Provinces, especially, must now look as their principal source of revenue.

Allan S. Watson, Ashcroft, B. C.—I have always reaped much good from your paper, and would not be without it.

Make Improvements Permanent.

Every progressive farmer each year arranges to make some permanent improvement about his farm. It may be a building, a fence, a drain, or some other desirable adjunct, and the practice is commendable. In the natural course of events there is a continual wearing out of established works, so that in order to maintain an evidence of progress and prosperity, and to guard against delapidation and decay, there must be a continual advancement in construction work.

The character of the improvements made is of material significance to the proprietor. Too often there is a tendency to do a lot in a mediocre manner, rather than to do a less amount each year of a thorough and substantial character. Very often a long line of fence of very ordinary quality is built in preference to building less of a more durable kind, simply because the first cost of the former is smaller than of the latter; or when building houses or barns, frequently the requirements of the present only are considered.

No doubt farmers, as a rule, are capable of accomplishing as much with a dollar as is any other class of men, but in many cases they are not as optimistic as the stable character of their profession seems to warrant. As a class we avoid every appearance of debt, and regulate the extent and character of our improvement by the size of our pocketbooks. This policy is doubtless good, if the character of the improvements is of the most permanent kind. What we most deplore is the large amount of improvement done that lasts but a few years, and then must be all done over again. When one considers the amount of work that must be spent upon the more permanent as compared with the less durable improvements, and the relatively small difference in the first cost, one wonders that there is not a greater preference for improvements of a permanent kind, and that buildings are not erected with a greater regard for the future needs as well as for present requirements.

While on this subject we would just like to urge our readers when in building fences to use the largest posts obtainable, and to use upon them some kind of preservative, and when building houses or barns to look into the future as far as human eye can see, that the arrangement of the buildings may suit future conditions, as well as those of the present. We do not wish to be understood as advocating greater expenditure upon improvements, for every man must be his own judge of such matters, but we wish to impress upon our readers the advantages of making farm improvements more permanent, even though it require a longer time to accomplish a certain end than by adopting a more temporary style of structure.

A Family Favorite.

I am much pleased with your paper, especially since it is changed to a weekly. I find it is the best farmers' paper I can get. It is welcomed every time it comes into our home by the whole family. My family enjoyed reading the story of A Fair Barbarian, which is very interesting to them. We have taken the "Advocate" for the past two years, and I have every number kept, and would not have any of them destroyed, as I can always find something valuable in them every time I look at them. Hoping it may long continue to be published, and wishing you every success.

ANDREW L. SHEARER.

Peterborough, Ont.

Comparative Merits of Beet and Cane Sugar.

Whenever wood or other carbonaceous matter is burned, whenever vegetable or animal matter decays, and with every exhalation of the breath of animals, carbon dioxide passes into the atmosphere. Yet, with this sure and constant supply, it is estimated that not more than three parts of it exists in 10,000 parts of the atmosphere. Still, small as this supply may seem, it is the one great source of all the carbon of the plant. Nearly one half of the dry matter of wood, sugar, starch, etc., is composed of carbon, and is got solely from the carbon dioxide of the atmosphere. This gas passes into the leaves, where, under certain influences within the plant, it is made to unite with water, forming a compound from which sugars, starch and cellulose or the woody parts of plants are formed. Every plant produces all three of these substances; some, such as forest trees, naturally form a large quantity of the cellulose, the potato lays up a store of starch, and the fruits, sugar beets and sugar cane develop sugar.

The three most common sugars are milk sugar, or lactose; glucose, also known as grape sugar and dextrose; and cane sugar, or sucrose. The milk sugar, or lactose, occurs in milk of all mammals, and has only a slightly sweet taste when fermented, as in the souring of milk lactic acid is formed.

Glucose occurs very widely distributed in the vegetable kingdom, especially in sweet fruits, in which it is formed together with an equivalent quantity of fructose or fruit sugar. It is also found in honey, together with fructose; and, further, in the blood, in the liver, and in the urine; and in the disease diabetes mellitus, the quantity contained in the urine is largely increased, reaching as high as eight to ten per cent.

Glucose may also be formed from several of the carbohydrates, by boiling with dilute mineral acids, or by the action of ferments. Under these conditions cane sugar, starch, dextrin and cellulose all yield glucose. Indeed, glucose is prepared on a large scale from the starch of corn and potatoes. Its sweetness is to that of cane sugar as three is to five. Under the influence of ferments it yields alcohol and carbon dioxide; a familiar example of which is seen in the fermenting of cider.

Cane sugar is the common sugar in everyday use. It is formed in the sugar cane, sorghum, the sugar maple, beets; in the blossoms of many plants; in honey, etc., etc. Boiled with dilute acids, cane sugar is split into equal parts of glucose and fructose. The mixture of the two is called invert-sugar, and the process is called inversion. It takes place, to some extent, when impure sugar is allowed to stand; hence, invert-sugar is contained in the brown sugars found in the market. Though cane sugar readily breaks up into glucose and fructose, no one has succeeded as yet in effecting the union of these two substances to form cane sugar.

Cane sugar may be put on the market in a variety of forms. It may be in the form of syrup, as sorghum and maple molasses; or in the amorphous form, as maple sugar cakes and the brown sugars; or, as is more common, in the crystalline form. The thoroughness with which the sugar is separated from the original material, the size and color of the crystals, depends entirely on the methods of manufacture and the operator. It may be off in color, uneven in granulation, a large or a small crystal, but it does not matter what shape or form it is in, whether it is obtained from the sugar maple tree, the sugar cane, or the