

Drying and Evaporating Fruits.

The drying of small fruits, apples, &c., is of the greatest importance to our farmers. Fruit should form a considerable part of a farmer's diet. Besides, the growing of fruits of all sorts, and especially the small kinds, is becoming a paramount industry in Ontario; and in no department of agricultural economy do we find so much loss as in the fruit that wastes under the trees and passes unnoticed. Yet in the case of apples or peaches, properly dried or evaporated, they are worth in the market to-day respectively fifteen to twenty-five cents per pound. The same carelessness or extravagance on the part of a farmer, if it related to corn or wheat, would subject him to unpleasant criticisms over the entire neighborhood; yet the actual loss would in present markets be only two and three cents a pound. It should be remembered that we have the markets of the world offering a profitable margin over the cost of production for all our fruits and berries at advanced prices. It has always been a wonder to me why our people have not gone more fully into evaporating or drying fruit, and we may say, vegetables. An active young man with a little capital invested in cultivating say five acres of sweet corn, planted at intervals, and evaporate it, can in a few months make a year's earnings at most other employments; and if followed up as a business, developing a home market for his product, will find in this suggestion a very satisfactory and profitable business. But infinitely more may be claimed for the making of slashed apples from early windfalls, to be had in the apple-growing sections for the picking, or a trifling cost. The term slashed apples simply means cutting up the fruit in slices and drying or evaporating. But I may here say, between drying and evaporating fruit there is no comparison. *Evaporating* is the method, and is demonstrated in nature's laboratory in the curing of the raisin, and fig, and date, which are dried in their natural skins in a tropical climate during the rainless season; by natural dry hot air, in the sun. The fact is, our farmers' wives, sons and daughters have been exchanging the product of Canadian orchards, with their labor added, at a discount of fifty to four hundred per cent. below the product of the less intelligent colored labor of Asia and Africa. Fruits that are grown in Canada are just as delicious, just as nutritious, as those of "Ormus or of Ind," if properly cured. But look at the village store, or in our cities and towns—our farmers' wives would trade off two or three pounds of dried apples for one pound of figs, currants, raisins, or prunes. Our domestic fruits are superior to those that we import in the way of raisins, &c., &c. That our domestic fruits in themselves are superior to those of Asia, Africa, Spain and Portugal, Italy and the Mediterranean islands, needs no further argument than a comparison of daily quotations between evaporated fruits and those produced in these countries. Every pound of evaporated apples offered has a value in Canadian and American markets equal to about two pounds of tropical dried fruits, while evaporated peaches readily command from three to four pounds of their currants, figs, dates, raisins, or prunes. This evaporating had better be more definitely explained: it simply means subjecting fruits at once to *dry*, hot currents of *air*, by drying the surface quickly, which prevents discoloration, forms an artificial skin, and seals the cells containing acid and starch, which yield fruit sugar,

and then *keep it dry until finished*. The hot steam or vapor is discharged at once. (I am speaking now of regular evaporators, which may be obtained of any respectable dealer.) Though a crude and slow process, the development of grape sugar is almost perfect. Water in fruit is water, and the medium of decay, and to expose the cut surface to steam or vapor retards evaporation and induces acetous fermentation and subsequent loss of sugar. This must be further explained. The majority of people suppose that raisins, dates and currants are cured or preserved by the addition of sugar. This is a mistake, for by the principle of dry air in a tropical climate, an artificial skin is formed, and the process of developing fruit sugar is carried on. There is sufficient sugar in all our fruits to preserve them if evaporation is not allowed to continually take place, and they are immediately dried by currents of dry heated air, as by evaporators now in use. These are designed to convert into the most valuable condition strawberries, raspberries, gooseberries, currants, grapes, apples, peaches, pears, plums, &c. The old paring bee style of drying apples, and the exposure of small fruits to the common temperature of the sun for a number of days, I need hardly say is not a scientific way of preservation in a climate like Canada, and hence it would be useless to recommend any particular procedure. Evaporators are to the old drying method what the sickle is to the self-binding harvester, or the old skim milk cheese compared to a rich Stilton. I would not recommend any particular method outside of a scientifically constructed evaporator; indeed there is no method or trick in *drying* fruit any more than putting out to the sun, or placing them in an oven, and this makes only a poor class of fruit. The table below, cut from an American paper, will show the relative value and profits of fresh and evaporated fruit in the United States markets, and certainly it shows a big margin of profits.

There can be a great deal said on this drying or evaporating question, and it may be stated that whichever process be resorted to, the free use of sulphur fumes has a beneficial effect in preserving the fruit.

A lady writer in an exchange says:—"In the fall of 1880 I visited a large fruit evaporator near us, and saw the lovely cream-white rings as they came from the wire cloth frame packed in huge boxes ready to ship. They looked good enough for Victoria's table. I went home, having ascertained that the cream color was the effect of bleaching in the fumes of sulphur, procured a machine that pared, cored and sliced the apple into a spiral ring at one operation, and then set the baskets filled with the rings in an ordinary packing box over the fumes of sulphur to bleach. The sulphur was thrown on a few live coals in an ashpan, one teaspoonful at a time, and the box was closed about fifteen minutes. This bleached several baskets of rings almost as white as a sheet of paper. The apples were then spread and dried in the ordinary way, and they retained their beautiful creamy color when dry. Then were then packed in paper bags and put away. When cooked in the spring they were entirely free from any smell or taste of sulphur, and as fresh and pulpy as green apples. No one that has ever tried them recognized them as dried apples. Two or three small sacks were left over until this year, without any further care. On opening them this spring of 1882 they were as fresh, apparently, as when first put up. The worms had not molested them. Housekeepers will appreciate this, as much fruit is lost every year from these pests. Those living in the country who are drying sweet corn, apples, berries, &c., will find their fruit much improved and made absolutely worm-proof by a few minutes' bleaching over sulphur fumes."

Our Scotch Letter.

[FROM OUR OWN CORRESPONDENT.]

A very great and welcome change has taken place in the weather in Scotland since I wrote last. Much needed showers have fallen copiously, and they have been general in every part of the country. Rain commenced on Sunday afternoon, and from that time till Tuesday evening the sky was wholly overcast, in almost all districts, and the rainfall was heavy. The wind was at first from the east, and the rain consequently was very cold, but on Tuesday it veered round to the west, and since that time the temperature has been very much higher. The sun shone out brightly on Wednesday, and Thursday was one of the warmest days this season. The effect of the rain and the change of wind combined has already been marvellous. In the Lothians and in those parts of Perthshire where the turnips had never branched, they are already visible, and promise well; and the grass has quite another look from the withered and bare aspect which it had till the rain came. I went over a large portion of the Midland and Western Counties of Scotland on Wednesday, and I have seldom seen the fields look better at this season. Wheat almost everywhere looks well, and if there is a fair amount of sunshine till the autumn, it should be a grand crop. In the heavy clay soils its appearance suggests vigor, and though there are some places where the drought has told upon it, it is rapidly recovering now under the influence of the genial showers. Potatoes also promise well everywhere. In the west of Scotland, where there are many farms which send off the whole potato crop to market as early as the beginning of August, it has seldom looked better, and if the rains take off now it will be a very fine yield. Growers of potatoes have remarked that the disease, when it appears early in the summer, generally shows itself first in rainy weather, and after a thunderstorm, and as thunderstorms have been frequent with the rains during the last few days, there is no doubt that some growers may be anxious about their crop, but as yet the grounds for anxiety are not very grave, as, though the rain has been abundant, it has by no means saturated everything. Some farmers are now disposed to modify their estimate of the lightness of the hay crop. There is no doubt that, as compared with the hay of recent years, it is very light, but it is perhaps scarcely correct to speak of it in general as the lightest crop of this generation. Even in the Carse of Gowrie, where it is on the average very light this season, there are some fields which bulk very well, and if only there is fair weather during the haymaking time it will not be an unprofitable crop. There is a good deal of anxiety among feeders of cattle as to the present state and prospects of the market. The price of lean cattle has of late been very high, and fat stock, though dear, has not at all risen in proportion, so that the return from recent markets has come to be rather small for the feeder; and at some recent markets there has been something like a dead lock, and great numbers of lean cattle have remained unsold. The more favorable prospects of the grass through the recent rains will doubtless be advantageous to the graziers, and will give them more confidence in buying, but there are indications, not a few, that extreme caution will be necessary on the part of the buyers of lean stock for some time to come. It has been forced up in price above that point where much profit is possible at the present rates for cattle, and if a reaction in prices should set in, it will add another to the many troubles of the time for the struggling farmer. Farmers are now looking very anxiously for signs of dry weather, for the sake of their hay, but as I write the appearances are not very favorable. To-day (Friday) the clouds are overcharged with moisture, the mean temperature is high, and the probability is that copious showers are again at hand. More sunshine and clearer skies would now be very welcome.

Aberdeen, July 6, 1883.

| Quantities. | Varieties. | Average value fresh. | Yields in lbs. of evaporated stock. | Worth per lb. evaporated. | Cost of conversion, labor, and fuel. | Profit in given quantity. |
|-------------|--------------------|----------------------|-------------------------------------|---------------------------|--------------------------------------|---------------------------|
| 1 bushel, . | Apples, | \$0 15 | 6, | 10@ 15 | \$0 10 | \$0 35@ 65 |
| 1 bushel, . | Peaches, 2d gr., | 25 | 7, unpared, | 10@ 15 | 15 | 30@ 65 |
| 1 bushel, . | Peaches, 1st gr., | 75 | 6, pared, . . | 25@ 30 | 25 | 50@ 84 |
| 100 ears, . | Sweet corn, . . . | 40 | 10, | 10@ 15 | 30 | 30@ 80 |
| 100 quarts, | Blackberries, . . | 2 50 | 35, | 10@ 12 | 40 | 60@ 1 35 |
| 100 quarts, | Whortleberries | 4 00 | 25, | 15@ 18 | 35 | 90@ 1 95 |
| 100 quarts, | Raspberries, . . . | 6 00 | 30, | 30@ 35 | 30 | 2 70@ 4 20 |
| 100 quarts, | Cherries | 3 00 | 25, pitted, . . | 18@ 22 | 50 | 1 00@ 2 00 |