

written by Hon. S. F. Perley, of the State of Maine, for the *Maine Farmer*, will be found to contain some useful suggestions:—

CLARIFYING.

When the sediment has well settled, draw off carefully, by a faucet, all the clear syrup from the "settling tub;" leaving the residuum to be diluted with sap, which reduces its specific gravity, when the sediment will be more thoroughly precipitated, and the clear sap, after a few hours, can be drawn off and returned to the boilers, to be included in the next batch; thus making a saving of nearly all the sweet, and rejecting the dirt. The clear syrup may be now poured into the graining kettle; and to a quantity of syrup which will make sixty pounds of sugar, add about one quart of skimmed milk for a clarifier, and thoroughly intermix the two by stirring. The white of eggs well beaten, bullock's blood diluted with water, and other albuminous substances may be used for clarifying; but upon the farm, milk is most easily obtained, is the cheapest, and best. Skimmed milk, if sweet, is equally as good as new milk; for it is the caseine, or curd, acting mechanically by entangling the fine particles of dirt, which the former strainings have not removed, that give it its value as a clarifier. Now place the graining kettle with its contents over a slow fire, and gradually heat the syrup to near the boiling point. This curdles the milk, and as the curd forms it embraces the impurities still remaining; and the curd, by the increasing heat, becomes specifically lighter than the syrup, and eventually floats upon the surface in a thick, somewhat tenacious scum. Care should now be exercised to prevent ebullition, as that would break up the sum, and the action of boiling would carry much of it down to be again mingled with the mass. Now swing it from the fire, and allow it to remain undisturbed an hour, more or less; during which time a great part of the feculencies will attract each other and rise with the scum. The scum is to be carefully removed with a fine skimmer; to draw the syrup from beneath the scum with a syphon, or stop-cock, would be a better way, for then there would be no disturbance, as in the case of using the skimmer; but this would be attended with some inconvenience and expense. Here, again, economy demands that the scum, which has so much sweet in it, should not be cast away; but be placed in a tub and diluted with sap, the allow it to settle a few hours; after which, the sap, much sweetened by the process, may be poured off and returned to the boilers. It is found by considerable experience, that, with the utmost care, the curd and dirt cannot be entirely removed by the skimmer; consequently, resort must be again had to the flannel

strainer. This last straining is usually omitted by sugar-makers, but it is quite important, if a clean, pure, sugar is wanted. A still better process would be to filter the syrup through animal charcoal, (bone black,) as is done in cane sugar refining; for by this process not only the dirt, but all coloring matter, would be removed, which would greatly improve the appearance of the sugar. Bone black, however, cannot be readily obtained in country towns; and the expense and trouble in procuring and using it would hardly be compensated where only a small business is carried on, as is the case in most of the sugar orchards in Maine. If any one desires to experiment in this direction, a filter made of finely pulverized and thoroughly washed wood charcoal will serve as an imperfect substitute for one made of bone black. So late as 1811, wood charcoal was exclusively used in refining syrups; at which time the superior quality of animal charcoal was discovered, and the former soon went out of use. But, by the use of the milk clarifier and the flannel strainer, a very fair sugar for home use can be made; and the ease with which these articles can be procured, and the simplicity of this process of manufacture, commend this method for general adoption.

The first boiling or "turning off," as it is termed, is simply reducing the thin syrup, by boiling, until it is of suitable consistence to be used as a table syrup, like that from refineries; or until it will granulate in sugar. No uniform rule for the consistency of syrup prevails; each maker adopts a standard to suit his own private taste; or else, taking counsel of his cupidity, he refrains from reducing it to a rich, honest, heavy syrup, so that he may have the greater number of gallons to market. Accordingly, much of that offered for sale will pour like water, when it should have the weight and consistency of good W. I. molasses. It should be reduced almost to the graining point, which can only be determined by cooling a small quantity in a saucer or other vessel, and testing it by sight and taste. A first quality syrup will granulate a little after straining a few weeks.

To produce sugar, still further boiling is necessary, and the precise point at which the boiling should cease is an item of experience, more easily recognized in practice than described. Several tests are relied upon, some of which are as follows: 1st, where the steam forcing its way up through the foaming mass, on reaching the surface, escapes by bursting its bubble with a slight explosion, similar to that observed upon hasty pudding when nearly cooked: 2d, when a small quantity, say a table spoonful, taken from the kettle and poured hot, upon a compacted snowball, after melting the snow a little, will lay up