[Method of Making Pot-Ash] Dr. Dexter

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Description

Instructions on how to make postash that had been presented to the American Society of Arts and Sciences. nn.442_44. Microfilm Reel 8062.

Transcription

METHOD OF MAKING POT-ASH.
[In a Letter from Dr. Dexter to the American Academy of Arts and Sciences.]

HAVING had frequent applications from the manufacturers of pot-ash, to examine that article, when condemned by the Assaymasters; I have been led to several observations, which are generally the result of experiments, respecting its defects and the causes of its impurity. From a conviction that those defects may be easily remedied, I have committed my remarks to paper, with a concise history of the manufacturing this salt, which I beg leave to submit to the consideration of, the American Academy of Arts and Sciences; and if after their critical examination, they shall be thought to contain any useful hints, they will dispose of them as they think proper.

It is unnecessary to premise, that the great evil which injures the sale, and very much reduces the value of some of the American pot-ash, arises from foreign matters, such as common salt and earth, being accidentally mixed with it.

The furnaces and machines or apparatus commonly used in this country, for extracting the salts from the ashes, and for boiling and fluxing them, are undoubtedly of good kind.

The first important object to be observed, is to extract all the salts from the ashes. For this purpose, rain or river water ought always to be preferred.--The ashes should be saturated and thoroughly wet, and remain with about an inch of water over the top of them twelve hours at least. Then a small opening may be made in the bottom of the leach tub, which ought to contain a strainer, to prevent the ashes from running off. The lie discharged is fit for immediate use. As

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soon as the manufacturer begins to draw it off, he must apply fresh water, and continue that application and boiling the lies, until they are so reduced in strength, as that they will no longer pay the expence of boiling. The ashes are, however, still to be preserved, and fresh water applied as before; and when drawn off they may be used with profit on fresh ashes, as long as there remain in the lies any salts, which may be discovered by the taste.

The lie that runs off for use, should be filtered as it passes the bottom of the tub and also as it runs into the receiver; which process may be performed without any expence or inconvenience, through clean straw. Previous to boiling the lie it ought to stand twenty four hours, and then be drawn into the kettles with great care, so as to leave all the sediment behind. Every precaution should be taken to let nothing fall into the lies previous to, and whilst boiling: Therefore that injurious practice of laying wood on the kettels for drying, must be avoided.

Strong lies may always be boiled half away in the first operation, and others much more. After which they must be taken with care out of the kettles and put into a receiver at hand. Being so shifted, a very small quantity of unslackened lime may be put into it, which serves to clarify, and at the same time renders the lie more pungent to the taste. After standing quiet until it cools to the state of blood heat, it must be again shifted; and in drawing off the lie in every instance, the utmost care must be taken that all the sediment, which is generally a chalky earth, is detained, which process will effectually separate all the common salt, for that will congeal and crystallize with hot water in the same quantity as with cold water, which is not the cafe with any neutral salt or alkali. If after all, from any circumstance unforeseen, the lies shall not appear pure and clean, after taken from the last sediment, they must stand quiet until another is formed, or until it ap-

pears that no other will form; should one form, it must be separated as before, prior to its being put into the kettles for the last operation. Without these precautions the pot-ash, in consequence of neutral salts and a chalky matter which are obtained from the ashes, will be hard to flux, and require a long time to effect it; Which will greatly endanger the kettles; and after it is fluxed will be very impure, and sell for a reduced price, if the owner be fortunate enough to find a market at any rate.

The pot-ashes which I have examines, that have been condemned by the Assay-

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masters, I have found to contain princi pally common earth, which is undoubtedly the chief source of impurity in the pot-ash of this country. If any crystals of common salt or nitre appear in the sediment, they may be preserved and purified by an easy process, which is known to people in general, who have attended to the manufacturing of salt petre.

After the lie is properly cleared from earthy matter and common salt, which not only retards the fluxing process, as has been observed, but renders it unfit for many uses, particularly the bleaching of linens, it must continue boiling until evaporation shall cease, then the fire must be increased until the salts are perfectly fluxed, for the purpose of destroying the inflammable substance, with which most of them abound which may be determined by the following simple method. Take some pot-ash and dissolve it in water: Let there be as much pot-ash as the water will dissolve. The plunge a piece of silver coin, or any thin plate of silver into the solution. If the pot-ash contains any inflammable matter, it will change the silver to a dark or black colour, in the same manner as if it had been over the steam of burning sulphur. By this easy experiment the manufacturer will be saved the expence and mortification of carrying pot-ash to market, which must sell for a

very reduced price. Should the workmen discover, on the experiment being made, the inflammable principle, or what is called by the workmen the oily substance, or fire, to exist in the pot-ash, it can be remedied only by dissolving in pure water, and boiling it down and fluxing it a second time; or it may be made into pearl ashes, by calcination, with little expence.

Some manufacturers may be discouraged from going through this process, by the labour necessary in shifting the lie so often. But if they consider the advantages they will obtain in fluxing their pot-ash, which will be effected in less than half the time required in the usual way, and the great saving in the expence of kettles, by the lies being made clean and pure; they will be reconciled to the method, notwithstanding their trouble, as their interest will be found on the experiment, to be concerned in its adoption, and as their pot-ash will find a more speedy market, and obtain a higher price. Besides, the manufacturer and the merchant will never be doubtful of their adventures, and the reputation of American pot-ash will be equal if not superior to any that is manufactured in Europe.

The subject of pot-ash making, has frequently been before the legislature, and application made for premiums, by people who have no doubt acquired useful knowledge in the business. This circumstance, and a wish to render service to the public, are the only motives which have induced me to commit these observations to the academy. I have endeavoured to avoid prolixity and all chymical terms, as I wish to be understood by people concerned in this branch of business, all of whom may not have had the means of obtaining a perfect knowledge of them.

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Method of Making Pot-Ash recipe from Early Modern Maritime Recipes: https://emmr.lib.unb.ca/recipes/48