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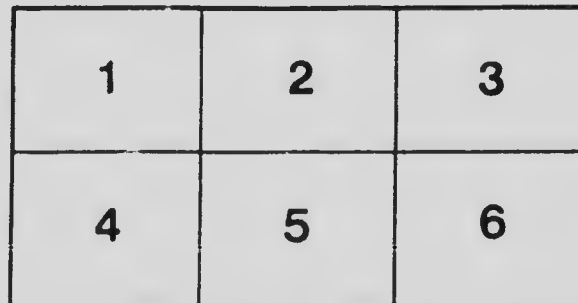
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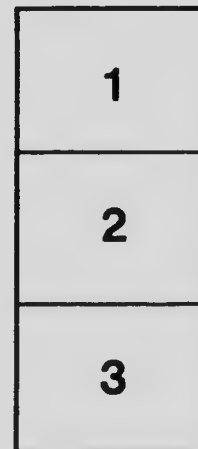
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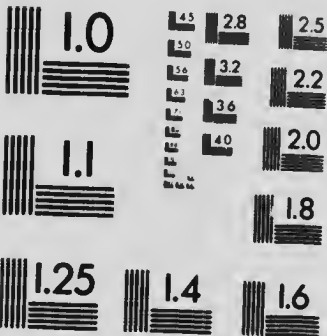
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**LIME-WATER FOR THE PRESERVATION OF EGGS**

BY  
FRANK T. SHUTT.

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SUPERIORITY OF LIME WATER.

Experiments in egg preservation were begun at the Experimental Farm, Ottawa, in 1898, and have been continued every season since that date. In the course of these experiments, trials have been made with more than twenty-five different fluids and preparations that have been proposed or sold as egg preservatives. The work of these fifteen years has shown the superiority of lime-water over all other preservatives which we have tested. Closely following lime-water is the so-called "Water-glass" or Sodium silicate. Both, according to our results, have proven effective preservatives, but it may be remarked that it is useless to expect that either can entirely arrest that "stale" flavour commonly found in all but strictly fresh laid eggs.

THE PREPARATION OF LIME-WATER.

The solubility of lime at ordinary temperatures is 1 part in 700 parts of water. Such a solution would be termed saturated lime-water. Translated into pounds and gallons, this means 1 pound of lime is sufficient to saturate 70 gallons of water. However, owing to impurities in commercial lime, it is well to use more than is called for in this statement. It may not, however, be necessary, if good, freshly burnt quicklime can be obtained, to employ as much as was at first recommended, namely, 2 to 3 pounds to 5 gallons of water. With such lime as is here referred to one could rest assured that 1 pound to 5 gallons (50 pounds) would be ample, and that the resulting lime-water would be thoroughly saturated. The method of preparation is simply to slake the lime with a small quantity of water and then stir the milk of lime so formed into 5 gallons of water. After the mixture has been kept well stirred for a few hours it is allowed to settle. The supernatant liquid, which is now "saturated" lime-water, is drawn off and poured over the eggs, previously placed in a crock or water-tight barrel.

As exposure to the air tends to precipitate the lime (as carbonate), and thus to weaken the solution, the vessel containing the eggs should be kept covered. The air may be excluded by a covering of sweet oil, or by sacking upon which a paste of lime is spread. If after a time there is any noticeable precipitation of the lime, the lime-water should be drawn or siphoned off and replaced with a further quantity newly prepared.

#### GENERAL PRECAUTIONS NECESSARY TO TAKE.

It is essential that attention be paid to the following points.—

1. That perfectly fresh eggs only be used.
2. That the eggs should throughout the whole period of preservation be completely immersed.

Although not necessary to the preservation of the eggs in a sound condition<sup>4</sup> a temperature of 40° F. to 45° F. will no doubt materially assist towards retaining good flavour, or rather in arresting that "stale" flavour so often characteristic of packed eggs.

Respecting the addition of salt, it must be stated that our experiments—conducted now throughout fifteen seasons—do not show any benefit to be derived therefrom; indeed, salt frequently imparts a limey flavour to the egg, probably by inducing an interchange of the fluids within and without the egg. Our advice is, do not add any salt to the lime-water.

#### WATER-GLASS.

Water-glass (sodium silicate) has been extensively experimented with, using solutions varying from 2 per cent to 10 per cent. On the whole, solutions 2 per cent to 5 per cent (2 pounds to 5 pounds sodium silicate in 10 gallons of water) have given better results than stronger solutions. Although in the main the results have been very fairly satisfactory, we are of the opinion that lime-water is superior as a preservative. Further, lime-water is cheaper and pleasanter to use than water-glass solution.

#### THE GLYCERINE PROCESS FOR THE TREATMENT OF EGGS.

This is apparently a misnomer, as glycerine, so far as the writer can learn, is not used in the process, which consists of momentarily (say about 5 seconds) dipping the eggs (which have been "pickled" in lime-water) in dilute muriatic acid, between 1 per cent and 2 per cent. This acid dissolves any incrustation on the shell and gives the eggs a fresh appearance, *i.e.*, as if they had been treated with glycerine. Immediately on withdrawing the eggs from the acid they are well washed with water, as by a hose, to prevent further action of the acid, and dried. This immersion in acid lessens the tendency of shell cracking when the pickled egg is boiled. Eggs should not be subjected to this treatment till about to be used, since the keeping quality of the egg is materially affected by the process.

The addition of glycerine to various egg preservative fluids has been tried at the Experimental Farm, but in no case did it prove satisfactory. The general effect was to induce the growth of mold.



