

Poultry

DESICCATED AND FROZEN EGGS

In the Scientific American, Otto Maurer under the above title gives us some interesting facts regarding the frozen and desiccated egg business which is of late years acquiring much popularity, from which we quote as follows:

"The young industry of desiccating eggs and preserving them by freezing the egg contents in bulk, seems destined to have a great future and to revolutionize the egg industry of this country. The desiccated product not only furnishes an excellent and highly nutritious substitute for fresh eggs, in compact form, to campers, explorers, sailors, and soldiers, but there is an increasing demand for it for general culinary purposes, and wherever eggs are used in large quantities, as for instance, in bakeries and restaurants. The product appears in the market chiefly in the form of golden yellow flakes, which are made ready for use by simply dissolving them in water.

"A visit to a factory where desiccated and frozen eggs are prepared gives one a fair impression of the magnitude of the egg industry in general.

"As the eggs arrive in the familiar egg crates from the dealers and small commission merchants they are immediately placed into a large refrigerated room, where they are quickly cooled to a point just above freezing to stop the growth of germs and to prevent decay during subsequent handling. The chilled eggs are then transferred, as soon as possible, to the candling room.

"All eggs that will not stand shipment and that are unfit for the expensive cold storage, go to the breaking room. This includes all cracked, dirty, watery eggs, and others that are perfectly fit for consumption, but which would be likely to spoil or break during further shipment or prolonged cold storage. In the breaking room, cleanliness is even before godliness. This room is provided with a system of refrigeration pipes so that the temperature can be kept low enough to prevent the growth of the germs that are always present, even in the best of eggs. The cups into which eggs are broken, and all other utensils, such as cans, etc., that come in contact with the egg meat, show a smooth surface.

Separating White From Yolk

"The girls who break the eggs are required to be neat and have clean hands. As each egg is broken into a glass cup, the girl smells it, and if she detects an odor, the egg is discarded. There is a large demand for egg-preparations consisting of white or yolk alone, or in various proportions. Therefore, the white is separated from the yolk by means of a simple mechanical device which insures cleanliness. Dirty eggs are not fit for this work because during separation there is too much danger of contamination with bacteria and fecal matter from the shells. The mere fact that the white and yolk can be separated is a proof of the good quality, because a weak yolk is one of the earliest signs of decomposition, and such an egg cannot be broken without getting the yolk and the white mixed.

"The egg meat is transferred to a large, closed mechanical churn provided with a brine cooling jacket, and is thoroughly churned for about half an hour. To make the frozen product, the churned egg-meat is distributed into 50-pound cans, which have first been sterilized in live steam. The cans are immediately transferred to a refrigerator, where the contents are frozen solid in a short time, at a temperature of several degrees below zero. Here they are kept until they are shipped in refrigerated cars to hotels, restaurants, bakers and dealers.

The Drying Process

"The egg meat intended for con version into the dry product, is taken to the drying room as soon as possible after leaving the churn. The drying apparatus consists principally of a long

flexible metal belt, which revolves in a hot air chamber, around two big drums. The strong air current applied in drying is filtered and heated by steam coils before coming into contact with the egg meat. The temperature of the air is regulated automatically so that it will never reach a point at which it might coagulate the egg and render it insoluble. Of course, the egg meat never gets as hot as the surrounding air, because it rapidly loses water thru evaporation, and this evaporation reduces the temperature. At one end of the hot air chamber the belt is exposed for a short distance, and here the egg mixture runs upon the belt along its whole width in a continuous stream. The egg meat is supplied by gravity from a large cooled cylindrical tank, which is suspended several feet above the outlet.

"The belt makes one complete revolution in 15 minutes. This is sufficient to dry the thin layer of egg, and not long enough to permit a multiplication of the bacteria in it, as it takes the bacteria at least half an hour to divide by fission. As the egg meat is applied to the belt in a continual stream, several layers of egg are superimposed upon each other. When the whole layer of dried egg has reached the desired thickness, the further application of egg is stopped and the thin film of dried egg is scraped off the belt by a mechanical steel scraper. The resulting dry egg is now in the form of fine golden-yellow flakes, which are placed on sieves of various mesh size and exposed to a current of dry-heated air, in a special room. Here the drying process is completed. The finished product, which contains only about 5 per cent. moisture, can be kept in cold storage indefinitely without deteriorating. At room temperature it changes slowly, finally acquiring a fishy odor and losing its solubility.

"The conversion of eggs into the frozen and desiccated product should become a great stimulus to the egg industry of this country. In fact, it opens up the European market to the American egg. The cold storage of eggs only retards, but does not prevent deterioration. With the modern methods of freezing and desiccating eggs, on the other hand, it is possible to obtain a product which retains for a long period the qualities of fresh eggs.

The Export Trade

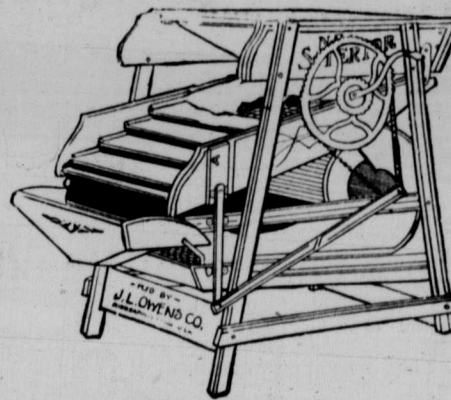
"Desiccating also greatly reduces the weight and bulk of the eggs, one pound of the dry product representing about 3½ pounds of the raw egg-meat obtained from thirty eggs. This means an enormous saving in freight and storage charges. When it is remembered that the high price of eggs in our large cities is chiefly due to the high cost of transportation and storage of the bulky shell eggs, and to the great losses arising from their decay and breakage during transit, the value of the freezing and desiccating industries will be appreciated.

"In spite of all these advantages, savings and conveniences that the use of frozen and desiccated egg offers, there seems to be quite a popular prejudice against it. This is due partly to the fact that a few dealers have placed on the market, or sold clandestinely for food purposes, frozen and desiccated rotten eggs. A large amount of eggs that are unfit for food are worked up into so-called 'tanners' eggs,' to be used in the treatment of fine leathers. In the preparation of tanners' eggs, the sound portion of spot eggs, eggs showing bloodings, and tainted eggs are used. After desiccation the product can hardly be distinguished by its physical appearance, from a similar preparation obtained from perfectly good eggs."

WHAT'S IN A NAME?

Geraldine: William means good; James means beloved. I wonder (blushing) what George means. Mrs. Fondhopes: Well, daughter, let us hope that George means business.

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