

# Oregon Agricultural College Extension Service

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## Department of Poultry Husbandry

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### HOW TO CANDLE EGGS

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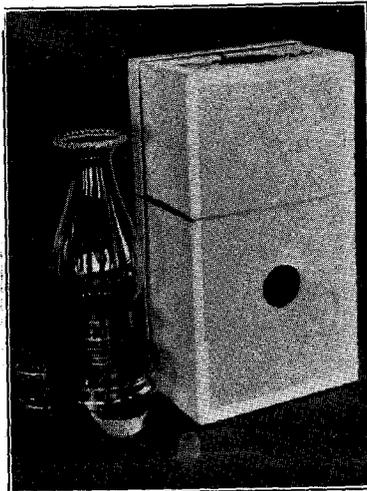


Fig. 1. Lamp and Box for Candling Eggs.

The producer who wishes to build up a good market for his eggs should candle them. Why? Because, first, it is not honest to sell a stale egg for a fresh egg, or a rotten egg for a good egg. Second, because it is good business; the producer will soon lose his best customers if he sells them eggs of poor quality. He should candle all eggs and thus be able to guarantee their quality.

The dealer who purchases eggs from the farmers should, in turn, candle them, and pay for them on a loss-off basis. He should not pay 30 cents a dozen to one farmer for stale and rotten eggs and the same price to another farmer for fresh eggs.

There are various kinds of eggs—fresh eggs, stale eggs, rotten eggs, and others that need not be mentioned here.

An egg that has just been laid and is still warm has no "air space." The contents contract as the egg cools, leaving a small space, called the air space, between the inner shell membrane and the shell itself. The shell being porous, air comes in and fills the space as the contents contract. Cooling of the egg, therefore, makes the air space.

The air space, however, continues to grow larger. This is due to evaporation. Since the shell is porous, the water in the egg evaporates and the air space increases in size. There are two things that are responsible for the increase in the size of the air space: first, the length of time the egg is kept; second, the temperature at which it is kept.

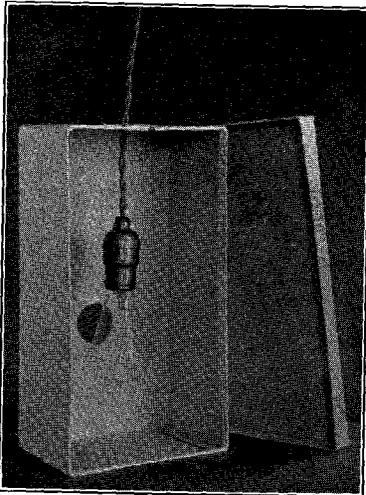


Fig. 2. Electric Bulb as a Substitute for the Lamp.

An egg may not show much increase in air space at a month old, if it is kept in a cool place. At two weeks of age it may show a larger air space if kept in a warm place than if kept a month in a cool place. Evaporation increases as the temperature rises. A large air space means a stale egg, and a stale egg is a libel on the hen and an imposition on the consumer.

The way to discover the stale egg is to candle it. Take a shoe box; set a lamp or candle in it; light the wick and put the lid on. Cut a hole the size of a small egg in the box opposite the light, and in a dark room hold the egg up to the hole. The air space will be clearly visible. You can tell its freshness without the date mark on it.

A suitable box and lamp, ready for use, are shown in Figure 1. In place of a kerosene lamp or tallow candle an electric bulb may be used, as shown in Figure 2. Most any kind of a box will do, one that will fit around the bulb—a shoe box or cereal box.

With the use of this device a fresh-laid egg will look like that in Figure 3. A very stale egg is shown in Figure 4. An egg may pass as

fresh though the air space is a trifle larger than that shown in Figure 3. Another thing about the stale egg, the yolk is likely to be found close to the shell at one side, or sticking to it. If such an egg be turned around before the candle, it will show darker on one side than the other, as in Figure 4. That means that the yolk is close to the shell or adhering to it.

Other kinds of eggs, some of them more objectionable than stale eggs, can be detected by candling. The rots are eggs absolutely unfit for food. Black rots are easily recognized by a blackish appearance caused by the formation of a gas in the egg, which sometimes causes

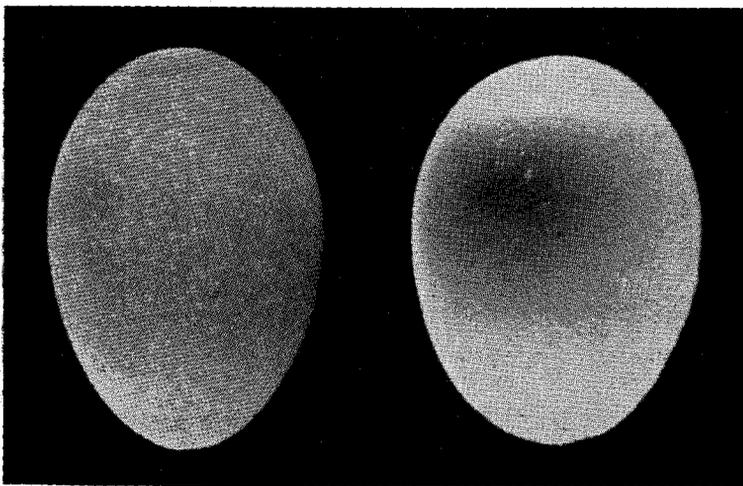


Fig. 3. Fresh Egg. Note the small air space. Fig. 4. Stale Egg. A large air space. The yolk has also settled to one side of the egg.

the egg to explode. The white-rot eggs are watery with yolk and white mixed, and have an offensive sour smell. Candling will also show the blood clots in the eggs, and the mold growth adhering to the inside of the shell.

There are many different kinds of eggs, and candling is a simple and accurate test as to their quality. The producer should candle the eggs he sells if he wishes to build up and retain a good market. The consumer should candle the eggs he buys to make sure that he is getting what he pays for and avoid the possibility of a bad egg at the breakfast table.

**BANISH BAD EGGS! TURN THE LIGHT ON THEM!**

**EXTENSION SERVICE**  
**OREGON AGRICULTURAL COLLEGE**

The Extension Service of the Oregon Agricultural College embraces all instructional work done by the College staff outside the institution. This includes institute, lecture, and fair work, supervision of county work provided for by State legislation; Boys' and Girls' Industrial Club work; correspondence courses; preparation of educative exhibits; publication of bulletins and distribution of news matter; cooperative work with granges, farmers' unions, schools, churches, commercial clubs, and other progressive organizations in the promotion of industrial and social enterprises. The Extension Service, in short, consists of carrying out to the people of Oregon practical and usable information on all subjects taught at the College.

Applications for assistance along any of the lines indicated, together with all particulars relating thereto, should be sent to the Director of Extension as far in advance as possible. It is the desire of the College to help all who apply, but its staff, facilities, and funds are limited; consequently, short-notice requests may not find the department in position to render the best service.

Particular attention is called to the fact that counties desiring to organize for agricultural field and demonstration work, under the provisions of Chapter 110, Laws of 1913, must make an initial appropriation in order to secure the State aid. Those interested in promoting this work should communicate with the Director of Extension, or the State Leader, at the Oregon Agricultural College, with reference to the best methods of procedure.