

HOW TO BUILD AN EGG CANDLER

by Walter Reeves

The Georgia Gardener (tm)

An egg candler is essential when incubating eggs. With a candler you can observe embryo development. You can also verify that the eggs are going to hatch.

The candler gets its name from the original device used by poultry farmers. They used a candle in a wooden box to examine their eggs.

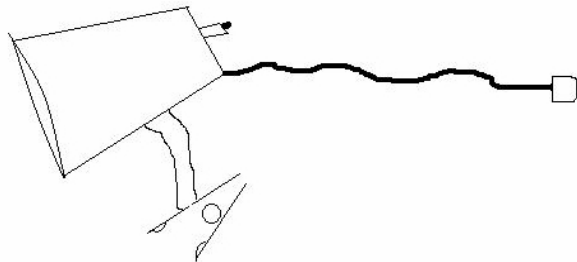
An updated candler simply has a light bulb in a box. You can devise one with a desk lamp or flashlight.

To use a candler, hold an egg by the small end and place the large end up to the lighted hole. A gentle turn allows you to see the yolk and embryo. Also examine the air cell in the large end to check its size.

Incubating eggs should be candled frequently. Remove a few eggs at a time from the incubator and candle them. If you number the eggs with a pencil, you can make notes on what is seen at each candling.

Desk lamp candler:

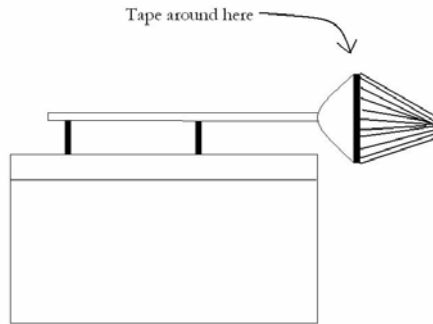
Use a desk lamp with a conical, opaque shade. One variety clamps to a table and looks like this:



Cut a piece of corrugated cardboard large enough to cover the large opening of the shade. In the center of the cardboard, cut a hole the size of a 25 cent coin.

Tape the cardboard to the shade. When you turn on the lamp, light will shine through the 25 cent-sized hole. Darken the room -- you may need to also place your hand over the small end of the lamp shade to block the light coming from there.

Flashlight Candler



Materials:

Bright flashlight

The common two-cell kind is okay if the batteries are new. A 6 volt camper's lantern is better.

Plastic kitchen funnel

The big end of the funnel should be about the same size as the bulb end of the flashlight.

Masking Tape

Heavy scissors

Procedure:

1. Place the big end of the funnel over the flashlight. If the funnel is too big, you may have to cut off some of the rim with the scissors until the two are the same size.
2. Cut off the small end of the funnel so that the opening there is a little larger than a quarter. Be sure that edges are smooth. You may want to cover them with tape.
3. Tape the big end of the funnel to the flashlight.

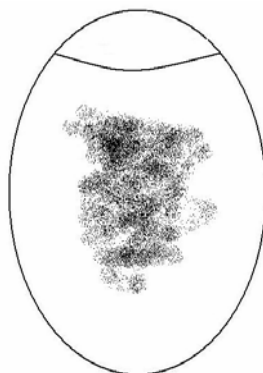
How to use the candler:

In a dark classroom, turn on the flashlight and hold an egg to the lit hole. You should be able to see the air cell at the big end of the egg. If you turn the egg slowly, you will be able to see the dark shadow of the yolk going around inside. The size of the air cell is a good indicator of the freshness of the egg.

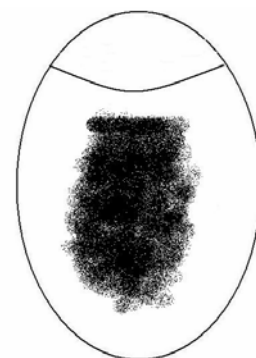
GRADE A
(yolk barely visible)



GRADE B
(yolk is visible)

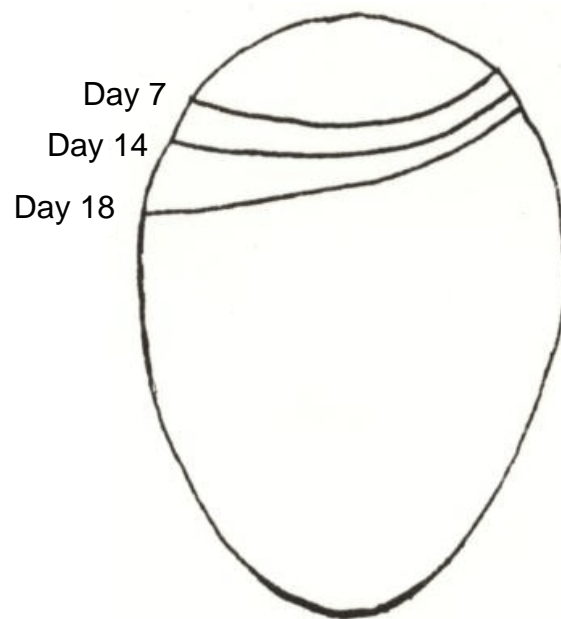


GRADE C
(yolk is distinct)



If you are candling an incubated egg, you will be able to see a dark spot on the yolk on day 3. This is the embryo - - its heart and eyes have already begun to form. There will also be a reddish tinge to the color inside the egg that will darken from day 3 to day 8.

On day 8 you will only be able to see the air cell. Everything else will be dark due to the blood veins covering the inside of the shell. The size of the air cell will change as the embryo develops. If it does not change as shown below, the humidity inside the incubator is too high or too low and the amount of water in the water pan should be adjusted.



CHANGES IN AIR CELL SIZE VS. DAYS OF INCUBATION