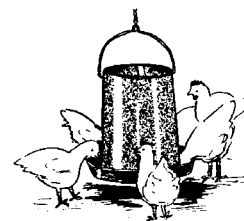*The University of Georgia*
Cooperative Extension Service
College of Agricultural and Environmental Sciences / Athens, Georgia 30602-4356

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BACKYARD FLOCK TIP . . .

BUILDING AN INCUBATOR

An excellent idea for a science project is to build an inexpensive incubator. The incubator may be used for hatching eggs from a back yard flock, or a fun learning project. Following are plans for the construction of an incubator from cardboard boxes. This information was obtained from the Illinois Cooperative Extension Service. At the end of this Backyard Flock Tip is the web address for The University of Illinois Extension where further incubator plans Styrofoam or plywood may be obtained.

An incubator for a science project need not be as elaborately constructed as a commercial incubator. One can be made from cardboard boxes and glass and the other from plywood (or similar material) and glass.

Do not expect 100 percent success in hatching eggs in these or any other incubators. Commercial hatcheries with all their highly automatic and specialized equipment do not average much more than an 80 percent hatch of all the eggs they incubate. Plan on hatching no more than 50 percent, and you may not even succeed in hatching that many.

The following supplies are needed to construct an inexpensive cardboard box incubator that will hold three dozen or more eggs:

- Two cardboard boxes, one 16 inches wide x 20 inches long x 13 inches (or more) high

- One pane of plexiglass, 16 inches x 20 inches

- ¼ inch mesh welded hardware cloth

- One porcelain socket and light bulb or one commercial heating element
- Cake tin (water pan) 1-1/2 inches deep x approximately 9 inches x 13 inches
- Glue
- Masking or duct tape
- Newspapers, wood shavings, or styrofoam
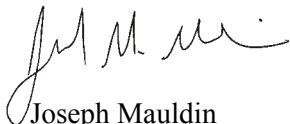- Two brooding or incubator thermometers

Instructions for Making an Incubator

1. Place the smaller box inside the larger one. The inner box should be higher than the outer box and approximately two inches smaller in both length and width.

2. Mark a line on the inside box approximately 1/4 inch below the level of the outside box. Use a yardstick to make a straight line on the inner box after it is removed from the outer box.

3. Cut off the top of the inside box along the line made in step 2.

4. Use cut-away pieces of the inside box to line the bottom of both the inner and outer boxes where there are openings where the flaps do not meet. If there are no cut-away pieces, cut up a third box to use.

5. Put glue on the bottom of the inner box, and then center the inner box in the outer one. There should be a one inch space between the sides of the boxes. Secure the inner box until the glue dries.

6. Mark a line on the flaps of the outside box where they come in contact with the inner edge of the inside box.

7. Cut off the flaps of the outside box along the lines drawn in step 6. Cut the corner pieces on a diagonal so that they will make a neat, flat corner.

8. Stuff strips of newspaper lightly into the space between the boxes. Do not bulge the sides of the incubator. Wood shavings, excelsior, or styrofoam can be used in place of newspaper strips.

9. Use tin snips to cut a 2-inch square from each corner of the 1/4-inch mesh hardware cloth, then bend the projecting pieces of the screen down so that they form legs to support the screen.

10. Place the cake tin, that will cover about one-half of the surface area of the inside box, under the hardware cloth screen.

11. Install the commercial heating element as directed in the instructions sent with the unit. If you use an electric light for heat, mount the porcelain socket on a board 6 inches square, then place the mounting board on the screen. Next, place a tube of cardboard around the light. Position the tube so that it surrounds the light and stands like a chimney, but to reduce the fire hazard do not let it touch either the light bulb or the covering plexiglass. An oatmeal box makes a good tube.

12. Tape the flaps of the outer box to the sides of the inner box. This seals the area in which the insulating material was placed.

Further information on incubating eggs may be obtained from the University of Georgia Poultry Science Department, The University of Georgia, Athens, GA 30602.

Source Web address: www.urbanext.uiuc.edu/eggs/res20-incubator.html

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"Your local County Extension Agent is a source of more information on this subject."