

LOCATING INCUBATION PROBLEMS

<u>Condition of Eggs</u>	<u>General Reasons</u>	<u>Suggested Corrections</u>
I. Clear and undeveloped eggs	<p>Holding eggs too long.</p> <p>Infertile eggs Refer to slides 5, 6 & 7 in Living Embryo Slide Set S-8-2a.</p>	<p>For best results, set eggs within 1-7 days of laying. Hold eggs at temperatures of 35°-55° F.</p>
II. Clear eggs with blood ring or a light development	<ol style="list-style-type: none"> 1. Eggs have been heated or chilled before setting. 2. Incubator temperature irregular; range of temperature too high and too low. 3. Interruption in operation of incubator; power failure or electricity turned off. 	<ol style="list-style-type: none"> 1. Hold eggs in even temperature - preferably between 35°-55° F. 2. Check incubator frequently for proper temperature. 3. Make sure principal and custodian are aware of incubation project. They may turn off electricity. <p>Make sure incubator is not in sun, near a radiator or in draft.</p>
III. Dead germ or embryo when egg is broken open to check embryo	<ol style="list-style-type: none"> 1. Eggs held too long or at improper temperature. 2. Wide temperature variation. 3. Temperature above 101° or below 97° F for long periods of time (high temp. especially bad) 4. Eggs in contact with resistance (heating unit) wire. 5. Eggs not turned frequently enough. 	<ol style="list-style-type: none"> 1. See Box I. 2. See suggestion 2 in Box II. 3. Check thermometer for accuracy. Make sure bulb of thermometer is on same plane as embryo in shell. (Note: 105° can kill an embryo in 1/2 hour.) 4. Do not permit eggs to come in contact with resistance wire. 5. Eggs should be turned at least 3 times/day for schools. Do not set eggs when incubation will be interrupted by a long weekend, more than 2 days, unless one goes in to turn.
IV. Eggs pipped but not completing hatch. Dead in shell in last two or three days of incubation.	<ol style="list-style-type: none"> 1. Not enough moisture. 2. Too much moisture; chicks drown (unlikely). 	<ol style="list-style-type: none"> 1. Increase surface area of water in bottom of incubator. Add wet sponges if necessary to increase humidity last 3 days. 2. Probably do not need sponges in during entire incubation; just last three days. <p>For both of these conditions one should check the size of air cell. Refer to "Incubating Eggs", L-8-1b.</p>

<u>Condition of Eggs</u>	<u>General Reasons</u>	<u>Suggested Corrections</u>
V. Early hatches	Temperature high during entire incubation period.	1. Check thermometer for accuracy and make sure it is in the correct position.
VI. Late hatch	1. Temperature low during entire incubation period. 2. Old eggs.	1. Same as for early hatch (see Box V, suggestion 1). 2. Set eggs in incubator as soon as possible.
VII. Crippled and deformed chicks.	1. Temperature maintained either too high or too low. 2. Eggs not turned frequently enough.	1. Maintain proper temperature. See Box V, suggestion 1. 2. Follow turning instructions above; see Box III, suggestion 5.

See also: "Incubating Eggs", L-8-1b.
"Suggestions for Successful Incubation", L-8-1d.
"Some Reasons for Poor Hatch", L-8-1f.

Ideal temperature for holding eggs is 55° F with a relative humidity of 65%. Eggs can be held in a household refrigerator for a few days provided the refrigerator is not freezing the foods stored there. Hatcherymen will argue with this, but for our purpose it works.

The major factors to be considered when incubating eggs are:

1. Temperature - 99° F with bulb on a plane with the top of the egg.
2. Humidity - Candle the eggs to observe the air space. See L-8-1b. The egg is a humidistat.
3. Ventilation - Construct incubator as directed and ventilation will not be a problem.
4. Turning - Turn a minimum of 3 times per day. Exception: last 3 days of incubation in all projects and weekends for school projects.
5. Condition of egg
6. Age of egg