HATCHERY/BREEDER TIP ...

EMBRYO TEMPERATURE

The importance of maintaining the correct temperature of embryos has recently been shown to be as important as incubator set temperatures. Ron Meijerhof, at Hybro has demonstrated that embryos frequently become overheated during incubation, even when the incubator set points are operating correctly within the narrow temperature set point range. Problems with machine maintenance, incubator cooling, airflow patterns, or other conditions may cause embryos to overheat. J. M. Mauldin and R. J. Buhr (1995) showed how a minor maintenance problem affected temperatures in different parts of an incubator, creating areas that were outside the proper temperature range. The result of overheating is lower hatchability and reduced chick quality.

Embryo temperature should be measured frequently. Taking embryo temperatures can be done easily with the use of inexpensive digital infrared thermometers sold at most drug stores. These thermometers are ideal for measuring embryo temperatures; even though they were designed for measuring human body temperature in the ear canal. They read temperatures accurately between 50 and 104°F. Hold the temperature sensor against the side of an egg to get a temperature reading after only one second. An advantage of this procedure is that it is noninvasive and will not harm the developing embryo. Optimum embryo temperatures range between 99 and 101.5°F. During the first 10 days of incubation the embryo temperatures should be near the low end of the optimum temperature range and during the remainder of the days in the setter and hatcher the embryos should be near the high end of the optimum range. Meijerhof said that he frequently finds embryo temperatures elevated to 103°F and even higher. In these situations chick quality is noticeably reduced. The low purchase price of this device is trivial to the amount of money that can be saved by using it to improve hatchability and chick quality.

Photo of Braun Thermoscan Model #3520. It measures in 1/10 of a degree and has a memory to hold 8 temperatures. Cost is approximately $50.00**.
References:


Meijerhof, R. 1999. Personal Communication

Joseph M. Mauldin
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**Consult with your poultry company representative before making management changes**

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