incubating Chicken Eggs: A Complete Guide for Beginners and Backyard Farmers

Incubating chicken eggs is a rewarding experience that allows you to witness the miracle of life from start to fluffy chick. Whether you’re a homesteader, a backyard chicken enthusiast, or simply curious about the hatching process, understanding the fundamentals of incubation is essential for success. This article will walk you through the entire process—from choosing eggs to watching your chicks peck their way into the world.

1. Choosing the Right Eggs

The incubation process starts with selecting the best eggs:

 • Fertile Eggs Only: You need fertilized eggs. These come from hens that have mated with a rooster.

 • Freshness Matters: Eggs should be no more than 7 days old for the best hatch rate.

 • Avoid Dirty or Cracked Eggs: Do not wash them. Washing can remove the protective bloom, allowing bacteria to enter.

 • Egg Shape: Choose eggs that are medium-sized with a normal shape—avoid unusually small, large, or misshapen eggs.

2. Preparing the Incubator

Before placing any eggs, prepare your incubator:

 • Clean and Sanitize: Disinfect the incubator to prevent bacterial infections.

 • Warm-Up Time: Turn it on 24 hours before use to stabilize the temperature and humidity.

 • Correct Settings:

 • Temperature: 99.5°F (37.5°C)

 • Humidity: 40–50% during days 1–17, increasing to 65–70% from day 18 to hatch.

 • Ventilation: Good airflow is vital for oxygen exchange.

3. Setting the Eggs

Place the eggs carefully:

 • Pointy End Down: The blunt end should face up, as the air cell is located there.

 • Spacing: Eggs shouldn’t touch each other; airflow is important.

 • Turn Them Often: Turn eggs 3–5 times a day (an odd number is best) to prevent the embryo from sticking to the shell. Automatic incubators can do this for you.

4. The Incubation Period (Days 1–17)

Patience and consistency are key:

 • Monitor Temperature and Humidity Daily: Fluctuations can reduce hatch success.

 • Avoid Opening: Keep the incubator closed as much as possible to maintain a stable environment.

 • Candling: On day 7 and again around day 14, use a flashlight or candling device to check for embryo development. You’ll see blood vessels and movement in healthy eggs.

5. Lockdown Period (Days 18–21)

Lockdown is the final stage before hatching:

 • Stop Turning: The chicks are positioning themselves for hatching.

 • Raise Humidity to 65–70%: This softens the eggshell and makes hatching easier.

 • Do Not Open the Incubator: Humidity drops can cause chicks to become shrink-wrapped in their membranes and die.

6. Hatching Day (Around Day 21)

Time to hatch!

 • Chicks Use Their Egg Tooth: They pip a small hole and slowly chip their way out.

 • Hatching Takes Time: It may take up to 24 hours from the first pip to full emergence.

 • Let Them Dry Inside: Once out, leave them in the incubator until fluffy and dry—usually another 6–12 hours.

7. Post-Hatch Care

Once dry, move your chicks to a brooder:

 • Warm Brooder Box: Keep at 95°F (35°C) the first week, decreasing 5°F each week.

 • Bedding: Use paper towels or pine shavings—not slippery surfaces.

 • Food and Water: Offer chick starter feed and clean water immediately.

Common Incubation Problems

 • No Development: May be due to infertile eggs or incorrect temperature.

 • Early Deaths: Often caused by poor turning or bacterial contamination.

 • Late Deaths: Can stem from low humidity or temperature drops.

 • Sticky Chicks: Caused by too-low humidity at hatch.

Final Thoughts

Incubating chicken eggs requires attention, care, and consistency—but the payoff is incredible. Watching a chick hatch is a moment you’ll never forget. With the right equipment and some patience, even a beginner can enjoy a high hatch rate and healthy, thriving chicks. Keep records, learn from each hatch, and soon you’ll be hatching like a pro.