

Brooding Chickens and Quail

Poultry and game bird producers realize that chicks must be kept warm or brooded during the first weeks of life. Surprisingly, improper brooding is one of the most common causes of stress in poultry flocks.

Three basic methods are used to brood chicks.

1. The chicks have localized heat source and access to a cooler, unheated area. The chicks determine their own heating needs by moving from hot to cold areas and vice versa. This method is known as spot brooding.
2. A large area around the brooders is warmed to the same temperature when whole house brooding. The chicks have no choice between warm and cool areas.
3. Partial-house brooding--Partial-house brooding is much like whole house brooding, since the total brooding area is warmed. To save energy, however, the brooding area is reduced to the minimum amount needed for the size of chicks. As the chicks grow, the brooding area is increased in accordance to their sizes. Good ventilation is essential with all brooding systems but especially partial-house brooding.

Light the brooders 24 hours before the chicks hatch or arrive. Determine if the brooders are working properly, and adjust the temperature to 90 to 95 °F below the outer edge of the brooder (1 inch above the litter). In time of stress or vaccination reactions, increase brooder temperatures about 5 ° above the recommended temperature until the chicks recover.

Place an 18-inch-high, solid-type brooder guard around each brooder. Locate the guard 3 to 4 feet from the edge of the brooder. The guard prevents floor drafts and keeps chicks near the heat. In summer, enlarge the ring to keep chicks from getting too hot. Expand the guard a little each day (about 20 to 25 percent total area increase) until it is no longer needed after 7 to 14 days.

Corrugated cardboard makes an excellent brooder guard and can be discarded when it becomes soiled. In hot weather, hardware cloth or similar mesh material may be used instead of solid guard. Most of these guards are cleaned, disinfected, and reused.

Place an adequate number of feeders and waterers around each brooder. Provide at least two 1-gallon waterers and two 12-inch or 18-inch chick feeders for every 100 chicks. Feed placed on a few feeder lids or egg flats under each brooder encourages the chicks to start eating sooner.

Sprinkle a pile of feed on each lid before placing chicks under brooder. Remove lids when all feed is eaten or after 4 to 6 days.

Place long waterers or feeders in the brooding area, pointing toward the heat source. If placed parallel to the brooder guard, small chicks may be prevented from returning to the warmth. (At 1 day of age, they have not learned they sometimes have to go around a long object to get back to the warmth.) Placing feeders in a "wagon spoke" fashion also insures that a section of each feeder is always in a comfort zone. Locate the inner end of the feeder under or slightly outside the outer edge of the brooder or hover. Never place all the waterers and feeders directly under the brooder. The area under the brooder must be kept clear for brooding the chicks.

The day-old chick's temperature is about 3 °F below that of an adult's. Its body temperature starts rising about 4 days of age and reaches its maximum at 10 days. The chick needs time to develop temperature control (2 to 4 weeks). As the chick grows older, the downy coat is replaced with feathers, and brooder temperature must be reduced according to the temperature schedule.

Brooding temperature schedule			
Age, days	Brooder temperature		
	°F		
	Summer		Winter
1-7	90	to	95
8-14	85	to	90
5-21	80	to	85
22-28	75	to	80
29-35	70	to	75
36 to market	70		70

Under this brooding schedule, the brooding temperature is reduced 5 °F each week. At 5 weeks of age, chicks maintain their own body temperatures if the room temperature is kept near 70 degrees.

Use lower brooding temperatures during warm months. Most poultry houses are not tight enough to maintain these temperatures constantly in winter. Insure adequate warmth in winter by using

the higher brooding temperature; when cold nights cool the house, chicks are likely to have enough warmth.

In contrast to what many think, the most frequent error observed when brooding in the South is overheating rather than too little heat. Many producers need to learn proper brooding to reduce losses.

Check the comfort of the chicks several times each day, especially in the evening. Make adjustments to maintain chick comfort. Contented peeping and even distribution of chicks around and under the brooder indicate comfortable conditions. If the chicks chirp and huddle to one side of the brooder, there is a draft. When the temperature is too cold, the chicks chirp sharply and huddle together under the brooder. If the chicks move away from the brooder, pant, and are drowsy, the temperature is too warm.

With steadily increasing energy costs, a strong emphasis must be placed on sound brooder management and operation. Some tips for conserving energy are listed.

- Use the correct brooder height, **as recommended by the brooder manufacturer**. A higher brooder adjustment increases fuel usage, while lower brooder adjustment increases the danger of igniting flammable litter and burning the chicks. Maintain a minimum clearance of 5 to 6 inches over the chicks' backs.
- Use dry litter material for brooding. Additional energy is needed to evaporate moisture.
- Check the accuracy of brooder thermostats and thermometers to insure proper heat for the chicks.
- Solid brooder guards keep the heat closer to the brooder.
- Place brooders near the center of the house. This reduces heat loss through walls and prevents drafts.
- Frequently clean burner orifices, adjust pilot lights, and check for proper gas line pressure.
- Brood the maximum number of chicks under each brooder, but do not overcrowd.
- Shut off half the brooder pilot lights when all the brooders are no longer needed. The best practice is to turn off every other brooder. The remaining brooders help prevent serious problems if internal house temperatures drop suddenly.

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