

Why set up a spot brooding circle?

- Giving chicks the best start possible by providing the correct brooding set up is key to subsequent flock welfare, uniformity and performance.
- Spot brooding uses a brooding surround to control early chick movement to maximize development of appetite and feeding behavior, and a local heat source which allows chicks to select their preferred temperature.
- Spot brooding also allows chicks from different aged source flocks to be brooded separately and makes planning areas for grading easier.



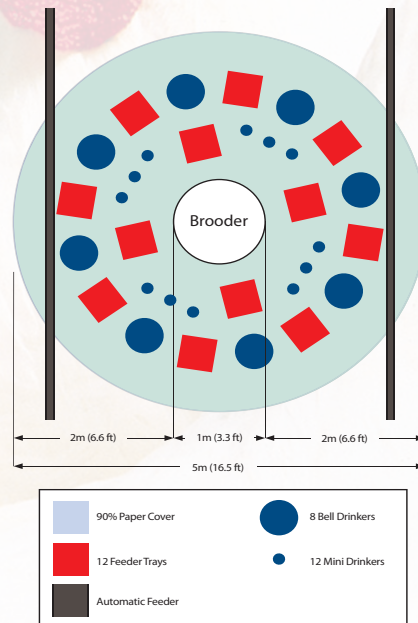
The procedure for setting up a spot brooding circle

Start with a clean, disinfected, biosecure and dry house where the litter has been evenly spread over the floor area to a minimum depth of 2 - 5 cm (0.8 - 2 in).

Equipment

1. Enough plastic, card or wood board fencing, approximately 50 cm (20 in) in height to surround the brooding area.
2. A brooder or local radiant heat source that can be placed in the center of each brooding area.
3. Plastic or cardboard trays to hold feed approximately 2 - 4 cm (0.8 - 1.6 in) deep.
4. Mini drinkers.
5. Bell drinkers.
6. A thermometer to measure temperature.
7. A hygrometer to measure relative humidity (RH).
8. Light intensity meter.

Spot brooding circle set-up



Procedure

Step 1 Calculate the correct size of the brooding area needed. Allow an initial chick stocking density of 40 chicks / m² (4 chicks / ft²). The size of the brooding area will also be determined by the output of the heat source. Refer to the manufacturers recommendation for brooder heat output and positioning.

Step 2 Lower the mechanical feeding (pan or track feeders) and drinking systems to the floor. Place the brooding surround around the calculated brooding area securing it to the mechanical systems to prevent it falling over and chicks escaping.

Step 3 Turn on the light source over the brooding area. Light intensity in the brooding area should be 80 - 100 lux (7 - 9 fc) at floor level.

Step 4 Place the brooder or other radiant heat source at the center of the brooding area, following manufacturer's recommendations for height above the floor.

Step 5 Place equipment in the brooding area.

a. Cover the brooding area with chick paper. The area directly under the heat source (approximately 10% of total brooding area) should be left clear of paper.

b. Place the remaining equipment evenly across the brooding area on top of the paper allowing:

- i. A minimum of 8 bell drinkers per 1000 chicks.
- ii. 12 mini drinkers per 1000 chicks.
- iii. 1 plastic / cardboard feed tray per 80 chicks.

Step 6 Place a thermometer and hygrometer at the edge of the brooding area, at chick height.

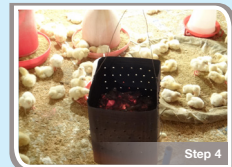
Step 7 Approximately 48 to 72 hours (depending on outside ambient temperature / time of year) prior to chick arrival, the brooder should be turned on to pre-heat the brooding area to approximately 21°C (70°F).

Step 8 24 hours prior to chick arrival, increase the temperature in the brooding area to achieve the following recommended environmental conditions at placement:

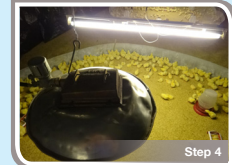
- An air temperature (measured at chick height) of 30°C / 86°F.
- A floor temperature of 28 - 30°C (82 - 86°F).
- An RH of 60 - 70%.

These measurements should be recorded 2 m (6.6 ft) from the brooders edge. Note that due to the temperature gradients that are created during spot brooding, the temperatures at the edge of the brooder may be higher than given above while temperatures further away from the brooder may be slightly lower.

Step 9 Immediately prior to chick arrival (1 - 2 hours) place feed (a good quality sieved crumb or mini pellets [2 mm / 0.6 in diameter]) on the supplemental feeder trays and on the paper to give a feeding area occupying at least 90% of the brooding area.



Step 4



Step 4



Step 5

Step 10 Turn on the automated drinking system and flush it to ensure it is clean and filled with fresh water. Fill supplementary mini drinkers. Water should be supplied to chicks at a temperature of approximately 18 - 21°C / 64 - 70°F (at the drinker).

Step 11 Gently unload the chicks, ensuring they are distributed evenly across the entire brooding area.

Step 12 Monitor and record.

- Check and record temperature at chick level - adjust as required.
- Check and record relative humidity in the house - adjust as required.
- Check and record light intensity and uniformity of light - adjust as required.

Interpreting results

Monitor chick behavior.

Chicks:

- Evenly spread.
- Feeding.
- Drinking.
- Resting.
- Noise levels signify contentment.



Chicks are comfortable.

No action required

Chicks:

- Huddling together / crowding under brooder.



Chicks are cold.

Action required

Check and adjust temperature and / or RH levels

Chicks:

- Spread out against side of brooding surround.
- Quiet.



Chicks are too warm.

Action required

Check and adjust temperature and / or RH levels

Interpreting results

To check whether the spot brooding set-up is correct, the following traits should also be assessed:

- Crop fill - If crop fill levels are below target, chicks have not found feed and water and future flock performance may be affected. Inadequate crop fill suggests brooding set up may be incorrect (*See Breeder Management How To...Assess Crop Fill*).
- Vent temperature - If environmental conditions are correct and chicks are comfortable vent temperature should be 39.4 - 40.5°C (103 - 105°F) (*See Hatchery How To...Check Your Chicks Are Comfortable*).
- Mortality - If higher than expected.
- 7 day body weight - If lower than target.

Areas to consider if targets above are not achieved:

Environment

- Pre-heating of the house prior to chick arrival.
- General environment in the brooding area:
 - o Air temperature at chick height.
 - o Litter temperature.
 - o Relative humidity.
- Light intensity in the brooding area.
- Ventilation rates and air flows.

Feed and water

- Do chicks have unrestricted access to feed and water?
- Does the feeding area occupy at least 90% of the brooding area?
- Is feed and drinker space correct and have the correct number of supplementary feeders and drinkers been supplied?
- Have feed amounts been replenished frequently in small amounts? During the first 3 days the maximum daily feed allocation should be provided in small amounts given 5 - 6 times a day.
- Are mini drinkers being used?