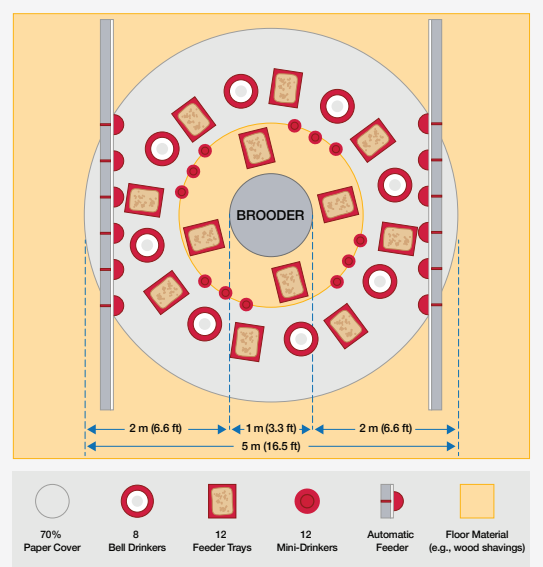
Why set up a spot brooding circle?

- Brooding is the first 7 to 10 days of a chick's life and the objective during this period is to provide the optimum conditions for the development of appetite and feeding behavior.
- The correct set-up of the brooding area will aid future high levels of flock performance, uniformity and welfare.

Spot brooding circle set-up



The procedure for setting up a 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 cm (0.8 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. Chick paper or an alternative floor covering to cover the litter in the brooding area.
4. Mini drinkers.
5. Bell drinkers.
6. A thermometer to measure temperature.
7. A hygrometer to measure relative humidity (RH).
8. Light intensity meter (appropriate to light source).

Procedure

Step 1 Calculate the correct size of the brooding area needed. Allow an initial chick stocking density of 40 chicks / m^2 (3.7 chicks / ft^2). The size of the brooding area will also be determined by the output of the heat source.

Step 2 Mechanical feeding and drinking systems should be lowered to the floor and must run through the brooding area. 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 to achieve a uniform light distribution. Use a light meter to ensure a light intensity of 30-40 lux (2.8 - 3.7 fc) is achieved at floor level in the brooding area.


Step 3

Step 4 Place the brooder or other radiant heat source at the center of the brooding area, following manufacturer's recommendation 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. 1 bell drinker per 125 chicks.

ii. 1 mini drinker per 100 chicks.

iii. Ideally, supplementary feeder trays (1 per 100 chicks) should also be placed in the brooding area.

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 the chick arrival, the brooder should be turned on to pre-heat the brooding area to approximately 21.0°C (70.0°F).

Step 8 24 hours prior to chick arrival, increase the temperature in the brooding area so that a temperature of 32.0°C (89.6°F) at the brooders edge is achieved at placement. Ideal relative humidity is 60 / 70%.

Step 9 Immediately prior to chick arrival (1 - 2 hours) spread a thin layer of a good quality sieved crumb or coarse mash starter feed onto the paper to cover at least 60% of the paper area and fill any feeder trays. Turn on mechanical feeding system and ensure all pans or chain feeders are filled.

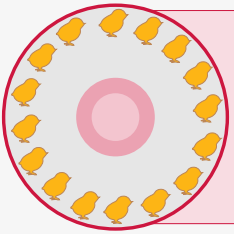
Step 10 Fill supplementary mini drinkers and bell drinkers with clean, fresh water supplied at the appropriate temperature (18.0 - 21.0°C / 64.4 - 69.8°F). Turn on the automated drinking system and flush to ensure it is clean and filled with fresh water.

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

Step 12 Monitor and record.

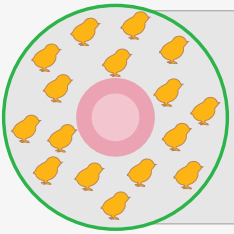
- Check and record temperature at chick level - adjust as required.
- Check and record relative humidity in the house - adjust as required.
- Check and record light intensity and uniformity of light - adjust as required.

Interpreting results



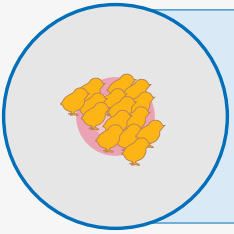
Temperature too high

Chicks make no noise
Chicks pant, head and wings droop
Chicks away from brooder



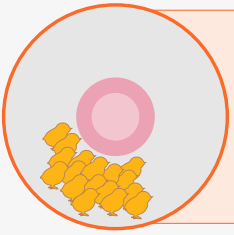
Temperature correct

Chicks evenly spread
Noise level signifies contentment



Temperature too low

Chicks crowd to brooder
Chicks noisy, distress-calling



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Chicks huddling in one
area of the surround

Interpreting results

To check whether the brooding set up is correct, assess the following traits:

- Crop fill - If chicks do not have the desired crop fill levels (i.e. if they are more than 5% below target for each age) *(See Broiler How To...Assess Crop Fill in Broilers)*.
- Vent temperature - Lower or higher than recommended (39.4 - 40.5°C [103.0 - 105.0°F]) *(See Hatchery How To...Check Your Chicks are Comfortable)*.
- Mortality - If higher than expected.
- 7 day body weight - If less than 4.5 old chick weight.

Areas to consider if targets are not achieved:

Environment

- Ensure that houses are pre-heated prior to chick arrival.
- Ensure chick comfort is optimum by monitoring and adjusting if needed:
  - Air temperature at chick height
  - Litter temperature
  - Relative humidity
  - Floor temperature
- Ensure light intensity is at the optimum level in the brooding area.
- Ensure ventilation rates are correct for young chicks.

Feed and water

- Ensure chicks have unrestricted access to feed and water.
- Ensure that feed is spread evenly on the paper, occupying at least 60% of the brooding area.
- Replenish feed on paper in small amounts given frequently.
- Ensure supplementary (mini) drinkers are used.