



BROODINESS

Selection programmes, because of their improvement in productivity of today's breeds, have reduced the broody behaviour of the breeder female. The physiological mechanisms for this natural behaviour are in the genetic makeup (genome) of the hen, and if they are triggered, have negative effects on the performance of that individual: rapid drop in production post peak and poor persistency due to the often delayed corrective measures taken to solve the problem.

Broodiness appears soon after peak production and lasts for 3-4 weeks – on occasion longer. As a consequence of “stress” the hormone Prolactin is released, which induces broodiness. Some of the known activators of stress are:

- **Excessive heat:** seasonal, insufficient insulation, poor ventilation, low cooling capacity.
- **Insufficient bodyweight** due to: a breeder ration short on nutrients required for the breeder flock rising to peak (necessary to follow the bodyweight gain), poor feed distribution and lack of equipment, too low a level of feed, which provokes eating competition and thereafter poor flock uniformity.
- **Nutritional factors:** various shortages (vitamins, trace elements, amino acids), toxins (mycotoxins ...), particle size too fine (a possible cause of under-consumption) or too large evoking particle selection.
- **Insufficient nests:** too many females in the nests at the time of laying. The standard to respect for the traditional nest is 1 hole / 4 hens; communal nests = 90 – 100 hens / linear metre of “back to back” nest.
- **Light intensity weak and / or poor distribution:** a minimum of 40 lux is advised in dark- type houses and 60 lux in open-side houses; consider house design, the season and the country. The light system in any building must give uniform light distribution.
- **Infrequent egg collection in traditional nests:** when the hens can see and feel the eggs under them, they can be stimulated to become broody.
- **Access to the nests at night time:** the sight of the nest and being able to stay inside the nest for long periods, favours broodiness.

To prevent broodiness all the above points must be checked / understood and their effects minimized. When broodiness starts, in order to reduce the economical loss that can occur, the key is to act quickly to find out what is the cause, so that production can return as quickly as possible.

Actively spotting broody hens, requires checking all nests every day at the end of the day and not just occasionally, during the period just before the peak of production. When a broody hen is disturbed she will exhibit signs of aggressiveness by: ruffling her feathers, slightly spreading her wings and making that characteristic squawking noise. After a few days of being broody, her comb becomes pale and smaller; the pelvic bone opening shrinks and the breast becomes bare to become the eventual “incubator”.

To stop broodiness the hen's environment must change radically: **no nest or litter, a well ventilated area (e.g. next to the fans) and strong light intensity.**

Two techniques have been traditionally used:

- 1- **Isolate broody hens in a pen with water and feed** (the same feed quantity and stocking density as the rest of the flock) for 5 to 7 days. Allow sufficient space for feeders and drinkers. It is desirable that the hens can eat properly to regain their weight if required.

The technique is to create two pens at the end of the house:

- Pen 1: for broody hens found on Monday, Tuesday and Wednesday
- Pen 2: for broody hens found on Thursday, Friday and Saturday.

The Monday of the following week in the middle of the day the hens in pen 1 are released back to the main population to allow space for more broody hens that may be found in the next 3 days. Hens in pen 2 are released each Thursday.

Continue the cycle until the number of broody hens subsides.

Adding one active male for each 15 to 20 hens is seen as stimulatory by the hens.

- 2- **Isolate broody hens in cages** (egg layer type cages) or in crates that are hung from the ceiling or at least use part of the slat area with feed and water (same as for the floor pen). The hens are released 7 days later. If feed and water is not available release the hens 36 to 48 hours later. Allow +/- 550 cm² / bird.

Which ever method is chosen, plan sufficient floor or cage space to allow normal stocking density, otherwise the effort will not be successful.

When local veterinary rules permit, administering aspirin in the water (1 gr / litre for 3 to 5 days) is a good technical aid to help solving the problem.

With automated egg collecting systems, it is possible during the period of peak production to close the nests (all hens are rejected from the nest) 2 – 3 hours before the lights are turned off, to eliminate the prolonged night period sitting in the nest. However, after 35 weeks, closing the nests should be progressively delayed to link with the later egg laying time as the hen ages.

If the above points are correctly applied, the number of broody hens should be quite low (0.2 to 0.3% at most) after a few weeks. It is useful to colour identify broody hens that are found and cull them after 2-3 consecutive periods in the “broody pen / cage. In fact these broody hens do not lay and are likely to stimulate others to follow suit.



Broody hen with a pale comb

Often they are found facing the front of the nest.



Broody hen: Ruffles her feathers



Broody hen: No breast feathers



Cages for broody hens (water + feed)



Cages for broody hens (no water or feed)



Cages for broody hens: low density



**Pen for broody hens next to the fans
(water + feed)**



**Pen for broody hens on the slats
(water + feed)**

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