Designing a breeder house: the box rule

By Ron Meijerhof

When designing the layout of a breeder house, the birds must have enough space to move freely and take water and feed.

As a rule of thumb, a full grown broiler breeder female is about 30 cm in length when standing normally and upright, and about 15 cm at its widest point. Using these dimensions provides a useful base for planning and will contribute to uniformity – as every bird will find space to feed.

Feeder space: chain feeders

Using this '30 x 15 box rule', we can easily calculate the length of a chain feeder system: 1.5 metres will accommodate 10 birds, and so on, to ensure each bird has the space to feed properly and at the same time.

Feeder space: round and oval feeders

A bird's widest part is typically positioned about 10 cm away from the rim when feeding from a pan, which means the 'feeding circle' is actually 10 cm *further* from centre than the outside rim.

For example, using a pan of 30 cm, the diameter of the *actual* circle required to accommodate optimum feeding is 30 cm + (2x10) cm = 50 cm. The optimum feed circle (circumference) for a 30cm pan is therefore 50 cm x 3.14 = 157 cm: enough for 10 birds to feed comfortably. A similar approach applies to calculating feed space for an oval pan.

Distance between feeder lines

Placing two feeder lines with a minimum distance between of 60cm places feeding birds "tail to tail", with no passage birds to move between them or find a place to feed. At 75 cm apart, a single bird can move between, but will be unable to pass another bird moving in the opposite direction. At 90 cm, all birds will find an "empty slot" very quickly, and feed without disturbance.

Distance between feeder pans in the line

For a 30cm diameter pan size, the minimum distance between pans must again be 2 x bird length (2x30) + 2 x bird width (2x15) – 90 cm - to allow passage between the feeding birds.

If space is limited, a gap of 75cm will suffice, as the birds are standing in a circle. Obstruction only occurs at one point and clears quickly.

Simply enlarging the pan size (and therefore the feeding circle) is not enough to optimise feeder space. The distance *between* the pans must also be enlarged accordingly.

Drinker lines

For bell drinkers, as for feeder pans on a line, the rim-to-rim distance between the drinkers should be 90cm, so that birds may walk unimpeded to the nest. Any obstruction here will also result in floor eggs.

Lines on the slats

If feeder lines are placed on the slats, the distance between the lines must be 90 cm, as should the distance between the feeder line and the rim of the drinkers.

The last line on the slats should be 60cm minimum from the edge of the slat. At this distance, birds can eat from the line (30cm), and two birds can pass each other (2 x 15cm), without being forced off.

The distance between the rim of the bell or nipple drinker line and the edge of the nest must be 60cm minimum, to allow birds to pass each other and find their preferred nest, without being disturbed by the drinking birds.

Lines next to the wall

A minimum 60cm gap should be left between the last line and the outside wall, again to allow birds to eat and pass each other. It is important not to increase this distance substantially, as this creates a quiet area, where birds don't eat or pass each other, resulting in more floor eggs against the wall.

Nest size and placement

To allow the birds to walk in head first, turn around and sit facing out, the nest must be at least 30cm wide.

And to enable the birds to inspect the nests before they select one, there must be an area in front of the nest where two hens can pass each other freely.

When the nests are not on slats, the placement of perches should not block this 'walkway'. Ideally, provide two perches per nest at 15 cm apart, with the first perch 10

cm away from the nest. Where only one perch is provided, birds must jump to the ground and back onto the perch to pass each other. This is fine when nest height is limited, but with a two-tier nest, this can prevent the birds from inspecting or selecting a nest due to its height from the ground, which once again can result in floor eggs.