



Conventional artificial incubation is very artificial. It surrounds the eggs with warm air, rotating them regularly but not changing their environment greatly. This has proved successful for the mass breeding of poultry, particularly as, over many generations, the breeding programmes have self-selected for birds which flourish in the artificial environment. But for other species, artificial incubation is less satisfactory.

Compare this artificial environment with natural incubation in the nest. The bird sits on the eggs with a brood patch, often plucked to bare skin, passing body warmth from the bird to the egg through a small contact area. At irregular intervals the bird gets up and rearranges the eggs. This exposes them to cool air. When she settles down, a different part of the egg is in contact with the brood patch. Some species even leave the eggs exposed, letting them cool while they forage for food or defend their territory.



Academic research on egg incubation has shown that for some species in the nest there can be a temperature difference across the egg of over 10 degrees. The top of the egg, in contact with the brood patch, can be as high as 40 degrees centigrade while the bottom of the egg can be as low as 29 degrees while brooding (and during bird absences, the whole egg can fall to as low as 20 degrees). How heat flow, the developing embryo and the brood patch interact to produce strong chicks, has proved to be far more complex than previously suspected. It is now established that the heat flow through the egg, passed downward from the contact area, is important in determining embryo growth and successful incubation.



Building on this research, Brinsea have created Contact Incubation Technology (CIT). This reproduces the brood area by inflating a plastic skin with warm air. As it inflates, the skin presses gently but firmly on the eggs sitting on rollers on a moveable base. Air can flow through this base, creating an environment which mimics the nest. Deflating the skin simulates the bird standing while moving the base reproduces the natural egg movements.



Since initial field trials in 2000 Brinsea's patented Contact Incubation Technology has established itself as a real step forward in incubation.

Eggs are warmed by contact with an artificial skin, rather than being surrounded by warm air, and the result is much stronger and faster development of the embryo in early stages of incubation. Many breeders of exotic, rare and valuable species across the world have switched to CIT.

The K7 also allows the breeder to use conventional moving air mode for later stages of incubation and hatching where the benefits of contact incubation are less important and the greater control of humidity can outweigh the advantages of incubation by contact.

A purpose designed hatching tray completes the K7 specification, giving the best possible hatching results for any species.

