

Instantaneous Mechanical Destruction (IMD) of chicks

► What is Instantaneous Mechanical Destruction (IMD)?

IMD is a method for killing day-old chicks. Live chicks enter a mechanical apparatus and are killed immediately. Although the method may sound unpleasant, IMD is a humane and effective method of killing day-old chicks when the equipment is used, managed and maintained correctly.

► Why kill day-old chicks?

On a commercial scale, chickens are farmed either for their meat (broilers or meat chickens) or their eggs (laying hens). It is primarily male chicks which are killed in layer hatcheries as they will not produce eggs and cannot be farmed for meat. In both layer and broiler hatcheries, chicks may need to be killed for welfare reasons if they are sick or deformed.

► Are there alternative methods for killing day-old chicks?

There are three methods for killing young chicks that are permitted under EU legislation:

- **IMD:** As described above
- **Dislocation of the neck (cervical dislocation):** This method is only permitted for emergency killing and should never be used routinely.
- **Gas killing:** Gas killing works by depriving the brain of oxygen. One method recommended by the HSA for killing newly-hatched chicks is to immerse them in a gas mixture of at least 95% argon and <5% air (this will lead to $\leq 1\%$ oxygen). This avoids the use of carbon dioxide, which - although legal in concentrations up to 40% - is acidic and can be aversive in concentrations above 25%.

The killing of chicks with gas mixtures does not result in an immediate loss of consciousness, therefore it is important that the induction of unconsciousness does not cause distress to the chicks. Furthermore, young animals such as newly-hatched chicks, are very resistant to oxygen deprivation. It is therefore necessary to expose chicks to the gas mixtures for at least three minutes to ensure they are killed, and not just rendered unconscious (stunned).

► Is there an alternative to killing male chicks?

The production of unwanted male chicks is both an ethical and sustainability issue. In some European countries, including Germany and France, the routine killing of day-old male chicks has been banned. New biotechnology is being used for *in-ovo* sex determination - that is, identifying male chicks whilst still in the egg and preventing them from developing to hatching. Although this new technology is promising, it is not yet widely used in every country. Whilst day old-male chicks continue to be killed, it is important that their welfare is protected. By updating our technical guidance, the HSA aims to ensure that the equipment is maintained and used appropriately by trained and competent operators.