



Perspective of a national competent authority in implementing the rules laid down in the Council Regulation (EC) N. 1099/2009

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Knowledge broadening

- Science based legislation
- Independent scientific support
 - Network...
- Training programmes given by CA
- BTSF must go on...






Knowledge broadening

- Personnel
 - Training 
 - AWO over capacities as counted below:
 - ~ 19 cattle/week
 - ~ 38 calves/week
 - ~ 96 fatterer pig/week
 - ~ 192 sheep and goat/week



Integrated approaches

- Safety and quality management 
 - SOP
 - Annex III
 - GMP
 - HACCP



Integrated approaches

- ISO 22000 (IFS, BRC, EUREPGAP)
 - ISO 9001 and
 - HACCP
- HACCP based SOPs
 - Purpose
 - Scope
 - Key words
 - Instructions
 - Monitoring
 - Corrective action
 - Verification and record keeping





Integrated approaches

- Approval procedure
 - Integrated with hygiene rules





Sophisticated technical details

- Unloading
- Lairage
- Stunning



Unloading

- Harmonised with transportation rules
- Welfare assessment





Lairage

- Harmonised with keeping rules





Stunning

- More methods
- Checks – monitoring on efficiency
- Semi-detailed descriptions



Broadening of methods

Killing

- any process which causes the death of an animal
- any intentionally induced process which causes the death of an animal

Slaughtering

- causing the death of an animal by bleeding
- killing of animals intended for human consumption

More stunning
methods



Selection of method

can happen

- by species
- by type
- by effect
- by aim
- by resources
- by back up system



A number of
installation-lines can
be formed



Individual installation-
lines should be
evaluated by CA



Checks – monitoring on efficiency

- Facilities
- Personnel
- Animal based signs
 - EFSA criteria





Type of stunning	Mechanical	Electrical	Gas mixture
Immediate collapse	+	+	
Immediate onset of tonic seizures	+	+	
Clonic seizures after tonic phase		+	
Apnoea	+	+	+
Upward rotation of eyes – electric stunning		+	
Dilated pupils	+	+	+
Absence of response to a painful stimulus	+	+	+
Loss of corneal reflex	+	+/-	+
Gagging or gasping		+/-	+/-
Complete relaxation of carcass		+/-	+



Method descriptions



Method	Key parameters
Penetrative captive bolt device	Position and direction of the shot. Appropriate velocity , exit length and diameter of bolt according to animal size and species. Maximum stun to stick/kill interval(s).
Non-penetrative captive bolt device	Position and direction of the shot. Appropriate velocity , diameter and shape of bolt according to animal size and species. Strength of the cartridge used. Maximum stun to stick/kill interval(s).
Firearm with free projectile	Position of the shot. Power and calibre of the cartridge. Type of projectile.
Maceration	Position of the shot. Power and calibre of the cartridge. Type of projectile.
Cervical dislocation	Not applicable.
Percussive blow to the head	Force and location of the blow.



Method	Key parameters
Head-only electrical stunning	Minimum current (A or mA). Minimum voltage (V). Maximum frequency (Hz). Minimum time of exposure. Maximum stun-to-stick/kill interval(s). Frequency of calibration of the equipment. Optimisation of the current flow. Prevention of electrical shocks before stunning. Position and contact surface area of electrodes.
Head-to-Body electrical stunning	Minimum current (A or mA). Minimum voltage (V). Maximum frequency (Hz). Minimum time of exposure. Frequency of calibration of the equipment. Optimisation of the current flow. Prevention of electrical shocks before stunning. Position and contact surface area of electrodes. Maximum stun-to-stick interval(s), in case of simple stunning(s).
Electrical waterbath	Minimum current (A or mA). Minimum voltage (V). Maximum frequency (Hz). Frequency of calibration of the equipment. Prevention of electrical shocks before stunning. Minimising pain at shackling . Optimisation of current flow. Maximum shackle duration before the waterbath. Minimum time of exposure for each animal. Immersion of the birds up to the base of the wings. Maximum stun-to-stick/kill interval(s) for frequency over 50 Hz(s).



Method

Key parameters

Carbon dioxide
at high
concentration

Carbon dioxide **concentration**. Duration of exposure. Maximum stun-to-stick interval(s) in case of simple stunning. Quality of the gas. Temperature of the gas.

Carbon dioxide
in two phases

Carbon dioxide **concentration**. Duration of exposure. Quality of the gas. Temperature of the gas.

Carbon dioxide
associated with
inert gases

Carbon dioxide **concentration**. Duration of exposure. Maximum stun-to-stick/kill interval(s) in case of simple stunning. Quality of the gas. Temperature of the gas. Oxygen concentration.

Inert gases

Oxygen **concentration**. Duration of exposure. Quality of the gas. Maximum stun-to-stick/kill interval(s) in case of simple stunning. Temperature of the gas.

Carbon
monoxide (pure
source)

Quality of the gas. Carbon monoxide **concentration**. Duration of exposure. Temperature of the gas.

Carbon
monoxide
associated with
other gases

Carbon monoxide **concentration**. Duration of exposure. Temperature of the gas. Filtration of the gas produced from engine.



Method descriptions

- How to define key parameters?
- How to check them?





Depopulation

- Action plan before each case!?
- Contingency plans shall include methods and SOPs
- Methods are determined by the Regulation



Conclusions

- Scientific network should be built up asap
- Integrated quality and safety management is beneficial
- Welfare assessment at highlighted points is inevitable



Conclusions

- Evaluation of installation lines requires high knowledge
- Stunning methods needs more evaluation and checking devices
- Depopulation methods not included in the list need more clarification

Thank you for your kind attention!

