



OIE Regional seminar on animal welfare during long distance transport

(Chapter 7.3 of the OIE terrestrial Animal Health Code)

13 - 15 March 2018, Chisinau, Moldova

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6. UNLOADING AND RESTING OF ANIMALS

OIE STANDARDS

- Article 7.3.5.
- 7. Rest, water and feed
- *a) Suitable water and feed* should be available *as appropriate and needed* for the species, age, and condition of the animals, as well as the duration of the journey, climatic conditions, etc.
- *b) Animals should be allowed to rest* at resting points *at appropriate intervals* during the journey. *The type of transport, the age and species* of the animals being transported, and climatic conditions should determine *the frequency of rest stops and whether the animals should be unloaded*. Water and feed should be available during rest stops.

TRANSPORT AND RESTING INTERVALS

EXAMPLE: EU REQUIREMENTS

TYPE OF ANIMALS	TRANSPORT REGIME
PIGS	24 HOURS TRANSPORT ON A LORRY WITH CONTINUOUS ACCESS TO WATER
DOMESTIC EQUIDE	24 HOURS, MUST BE GIVEN LIQUID AND <u>IF NECESSARY</u> FED EVERY EIGHT HOURS
GOAT SHEEP CATTLE	14 HOURS OF TRAVEL, REST PERIOD <u>AT LEAST</u> 1 HOUR TO BE GIVEN LIQUID AND <u>IF NECESSARY</u> FED, AFTER THIS MAY BE TRANSPORTED FOR 14 HOURS
UNWEANED CALVES, LAMBS, KIDS , FOALS, PIGLETS	9 HOURS OF TRANSPORT , REST PERIOD OF AT LEAST 1 HOUR TO BE GIVEN LIQUID AND <u>IF NECESSARY</u> FED

AFTER THE JOURNEY TIMES ABOVE ANIMALS MUST BE UNLOADED, FED AND WATERED AND BE RESTED FOR AT LEAST 24 HOURS.

IN THE INTERESTS OF THE ANIMALS, THE ABOVE SPECIFIED JOURNEY TIMES MAY BE EXTENDED BY TWO HOURS, TAKING ACCOUNT IN PARTICULAR OF PROXIMITY TO THE PLACE OF DESTINATION.

POULTRY AND RABBITS CAN BE TRANSPORTED FOR UP TO 12 HOURS (NOT TAKING INTO ACCOUNT LOADING AND UNLOADING TIMES)

EU REQUIREMENTS REGULATING DRIVERS

- **Lorry with one driver**
 - After 4.5 hours of transport mandatory 1/2 hour of rest then driving 4.5 hours
- **Lorry with two drivers**
 - After 4.5 hours of transport another 4.5 hours of driving then 1 hour of rest

That effectively means that **9 hours** limit of animal transport is effectively reduced to **8 hours** according to “driver’s welfare” legislation

PIG FASTING

(< 4 h before transport)

- Motion sickness
- Vomiting and aspiration problems
- Dilate stomach press diaphragm : tachycardia
- Increase metabolism



high body temperature



Induce heat stress



FASTING ADVANTAGE

- Reduced motion sickness
- Reduced vomiting and death caused by aspiration of stomach content during transport
- Lower gut content , less chance of rupture, nicking and spoilage by content



PIGS TRANSPORT

- IF FOOD WITHDRAWAL IS PROLONGED
 - FATIGUE
 - WEIGHT LOSS
 - HUNGER, AGGRESSIVENESS, FIGHTS
 - EMPTY GUTS SUPPORTS PROLIFERATION AND SHEDDING OF LARGE QUANTITIES OF SALMONELLA SP.



LORRIES TO TRANSPORT PIGS

- Pig semi-trailer with forced ventilation and water tanks in front of trailer



**Water tank capacity =
Min 1,5% of pay load**

**Pay load 23 t = 23000 Kg
 $V_{min} = 23000 \times 0,015 = 345 \text{ l}$**

UNLOADING AND RESTING

- Bradshaw et al. (1996a) suggested that, because unloading and loading are very stressful to pigs, unloading the pigs during a long distance journey in order to rest them and allow them food and water (and subsequently re-loading them back onto the vehicles with full stomachs), may be the worst possible course of action.
- Only moderate amounts of food should be given to pigs in resting periods.
- Most suitable are easily digestible liquid concentrates to trigger energy recovery.

CATTLE TRANSPORT REGIME

- 14 HOURS OF TRAVEL, REST PERIOD AT LEAST 1 HOUR TO BE GIVEN LIQUID AND IF NECESSARY FED, perhaps lactating dairy cows, AFTER THIS MAY BE TRANSPORTED FOR 14 HOURS
- Marahrens et al. (2003) recommended a minimum feeding/watering interval of up to 3 hours for long journeys. Furthermore, the access to feed and watering cups is affected by the stocking density.
- Drinking facilities for cattle should consist of an open water expanse with a minimum of 3 cm water depth and minimum flow rate of 3 litres per minute.

TRANSPORT OF CALVES

- **Small calves (not adjusted to eat solid food) must be fed after 9 hours!**
- **They should not drink water and need to be unloaded at stable (control post) and receive electrolyte or milk replacement.**

PROBLEMS – FIXED WATERING DEVICES



Eyes on

PORTABLE DRINKERS



SIGNS OF THIRST AND HUNGER

- Animals licking and biting bars
- Dry nose



SMALL RUMINANTS

- 14 HOURS OF TRAVEL, REST PERIOD AT LEAST 1 HOUR TO BE GIVEN LIQUID AND IF NECESSARY FED, AFTER THIS MAY BE TRANSPORTED FOR 14 HOURS
- SCAHAW (2002) recommend a rest period of at least six hours after 12 hours of travel for sheep and after eight hours for lambs weighing less than 20kg, during which food and water should be provided. In the case of animals being transported to slaughter, they recommend that journeys of a total duration exceeding 12 hours for sheep and 8 hours for lambs weighing less than 20kg should be avoided.

SMALL RUMINANTS

- small ruminants under stressful conditions sometimes tend to cease feeding, but after 12 h of travelling time their feeding and drinking priority again starts to be
- Lambs, if not trained to use nipple drinkers, will not drink during transport.



HORSES

- Horses require 20-70 litres of water per day depending on horse breed/type, activity, and weather conditions.
- Each animal should have access to water during the journey or be provided with water every 8 hours
- The watering devices shall be in good working order and be appropriately designed and positioned for the categories of animals to be watered on board the vehicle



HORSES

- Horses tend to be more fatigued in transport than cattle because unlike cattle they do not tend to lie down during transport and constantly have to adjust to the movements of the vehicle.

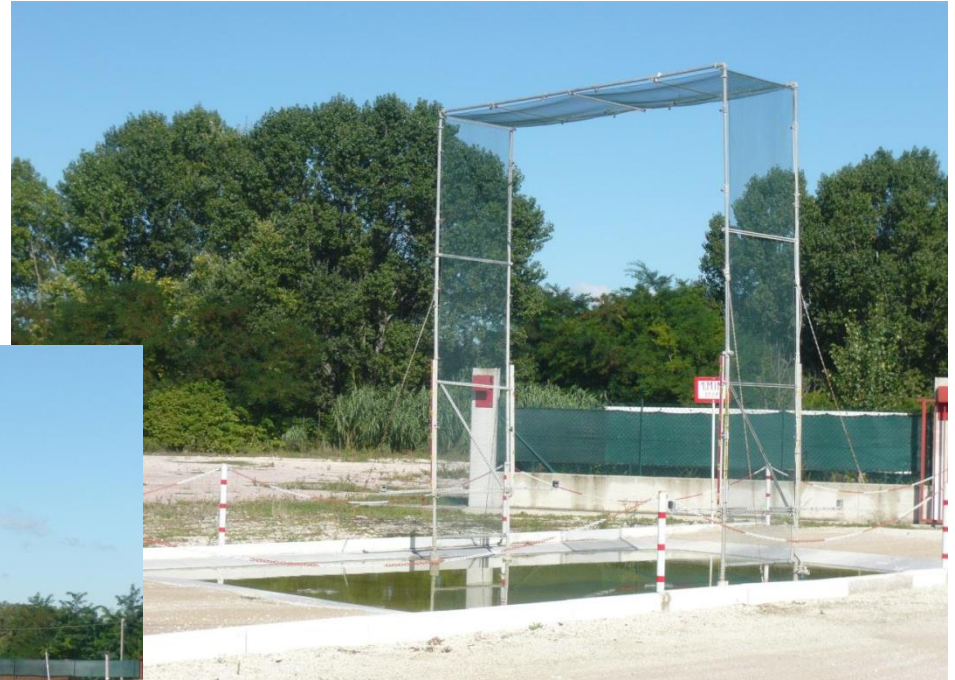


RESTING POINTS

- Resting points must be used exclusively to:
- Receive animals and provide space to rest
- Feed and water them
- Provide protection against adverse climatic conditions



ENSURE BIOSECURITY MEASURES




RESTING POINTS – UNLOADING FACILITIES

- Non-slip floor covering and, if necessary, lateral protection.
- • Bridges, ramps and gangways must be fitted with sides, to prevent animals falling off.
- • Loading and unloading ramps should have the minimum possible incline.
- • Passageways must be built to minimise the risk of slipping or injury to animals.
- • No appreciable gap or step is allowed between the vehicle floor and the ramp or the ramp and the floor of the unloading area.

UNLOADING OF ANIMALS



UNLOADING RAMPS

	Slope	Maximum height h	
Pigs	$\leq 20^\circ$	36 cm	
Calves	$\leq 20^\circ$	36 cm	
Horses	$\leq 20^\circ$	36 cm	
Sheep	$\leq 26^\circ 34'$	50 cm	
Other cattle	$\leq 26^\circ 34'$	50 cm	
All species	$> 10^\circ$	17,6 cm	Foot battens necessary

POORLY DESIGNED RAMP (VIDEO)



VIDEO - SLIPS AND FALLS

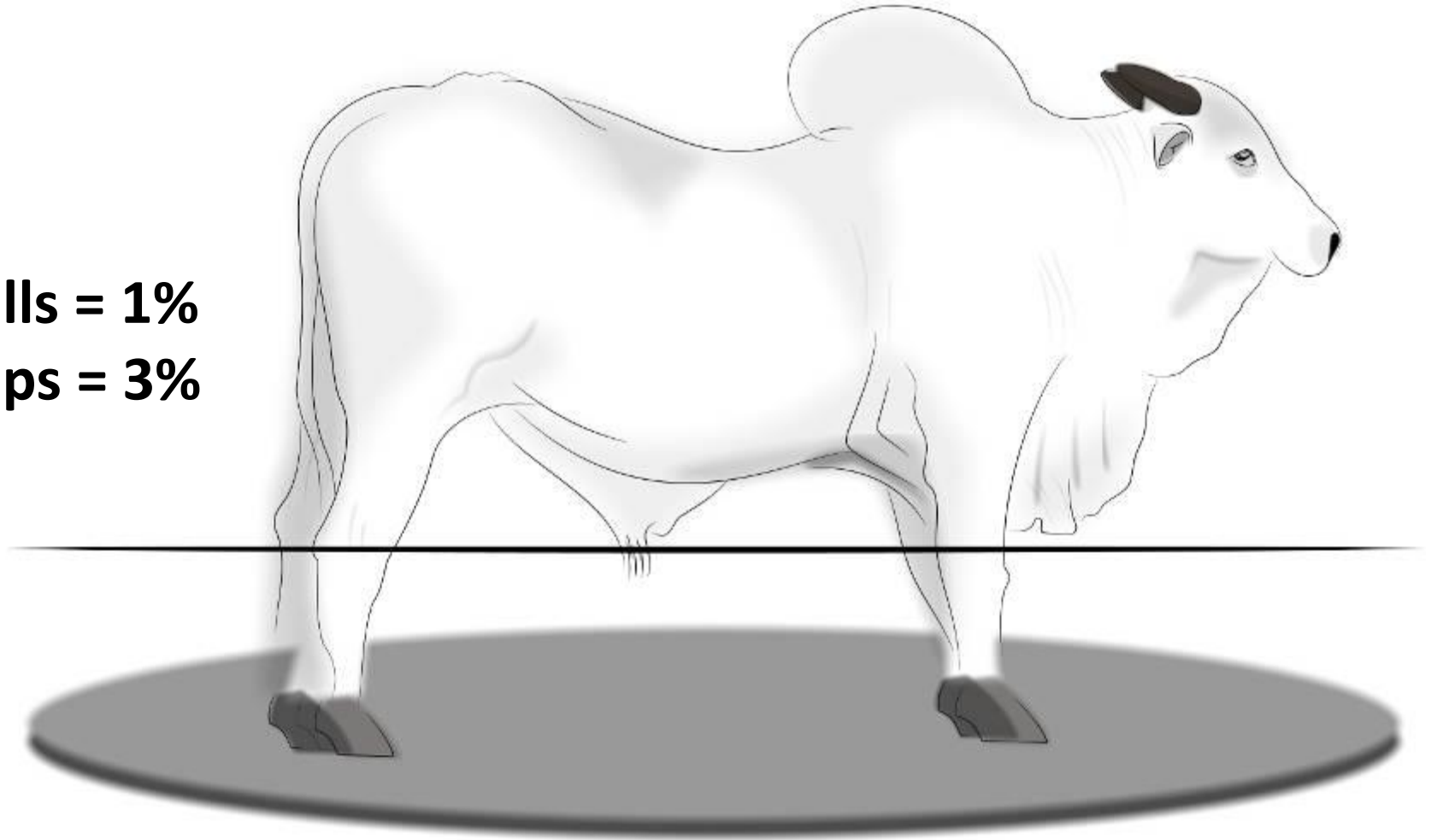


Source WSPA Steps

SLIPS AND FALLS

Falls = 1%

Slips = 3%



DESIGN OF FACILITIES FOR SHEEP



GOOD UNLOADING (VIDEO)

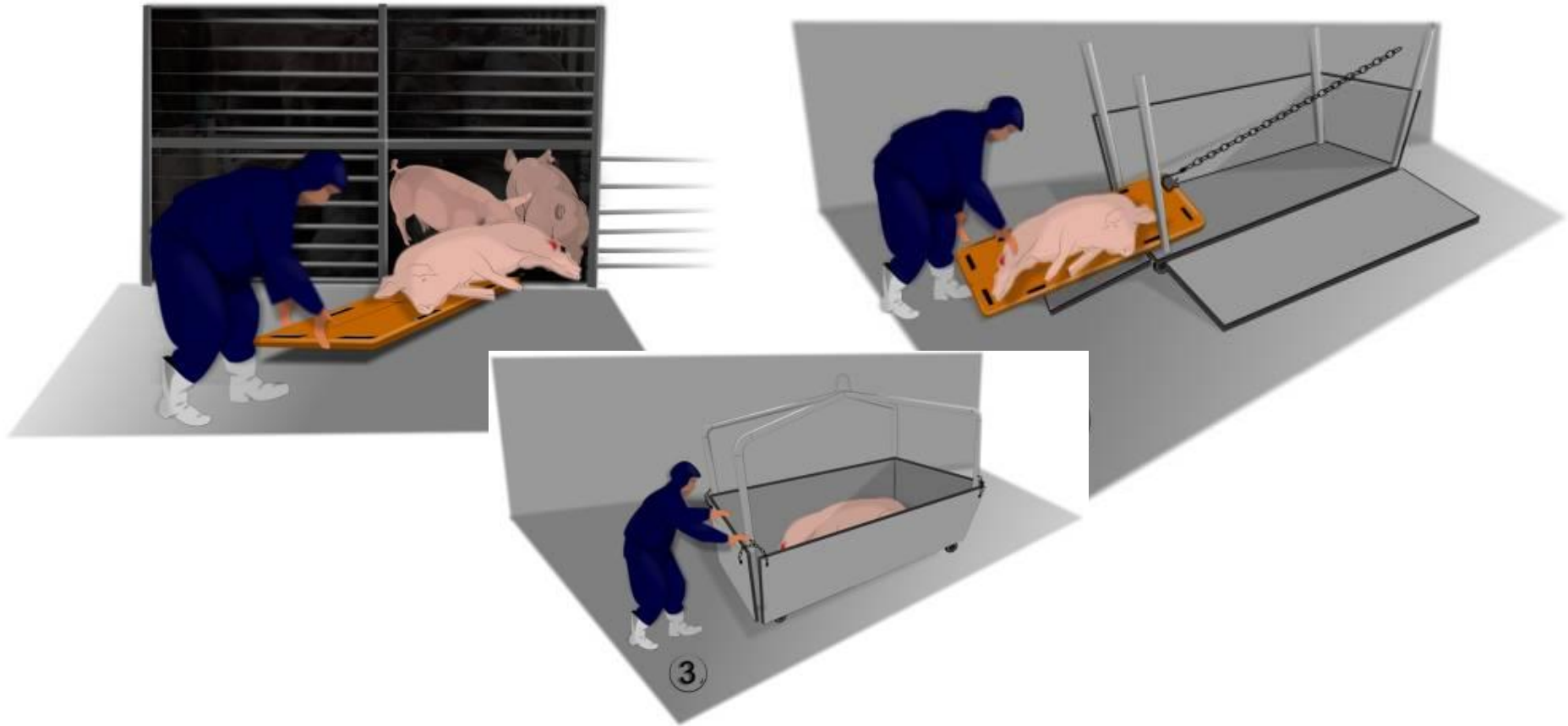


EMERGENCY PROCEDURES SICK OR INJURED ANIMALS

Article 7.3.10.3

An animal that has become sick, injured or disabled during a *journey* should be appropriately treated or humanely killed (described in Chapter 7.6. Killing of animals for disease control purposes).

INJURED AND IMMOBILE ANIMALS



EMERGENCY KILLING OF DOWNER CATTLE



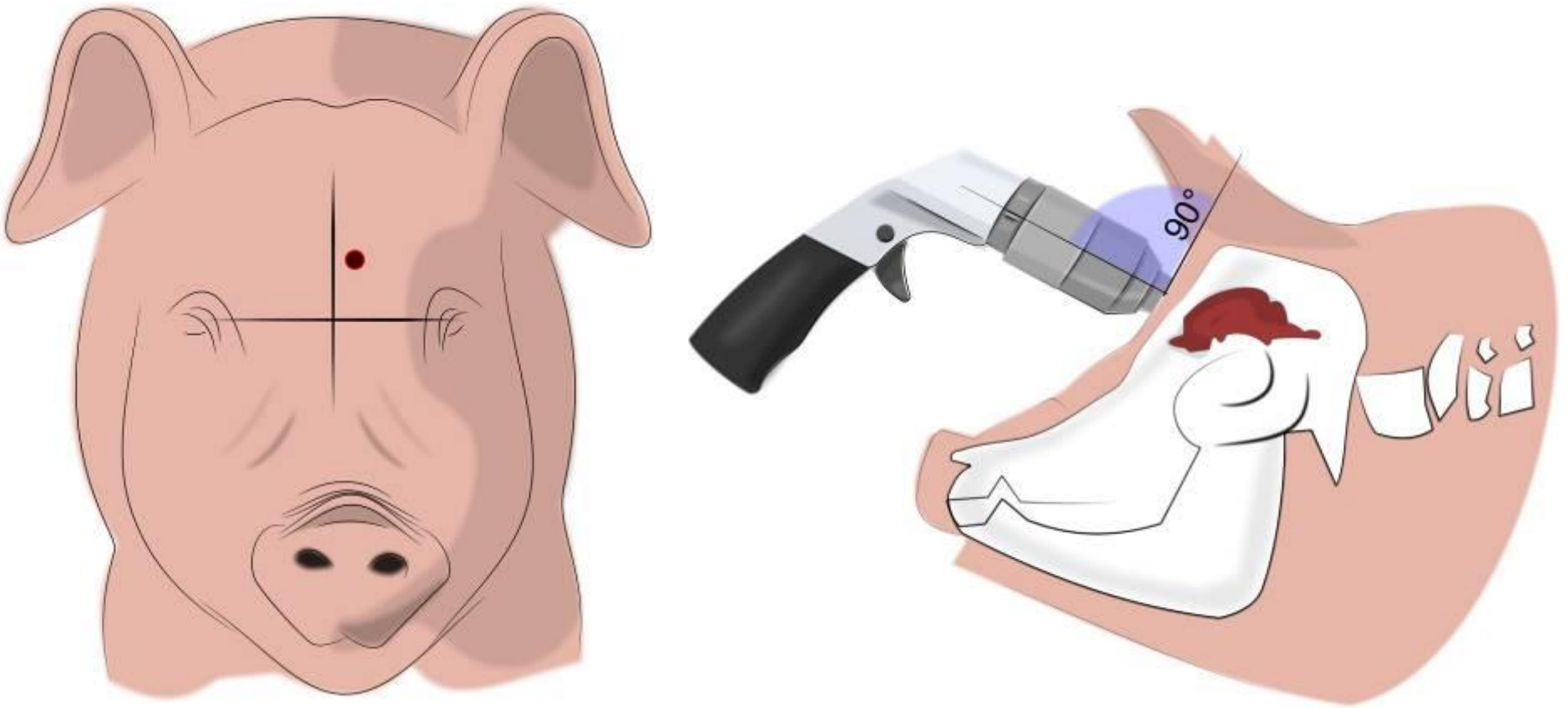
Source WSPA Steps

EMERGENCY KILLING WITH STUNNING



Source WSPA Steps

EMERGENCY KILLING PIGS



Source: HSA, 2006

RESTING PREMISES

- Group housing
- Preferably decanting a lorry compartment per resting pen, avoiding mixing of animals
- If unavoidable – then maximum two compartments are housed in one pen – need to observe



TEMPERATURES WITHIN ANIMAL COMFORT ZONE

Animal categories	Minimum temperature	Maximum temperature
Piglets <15 kg	+20°C	+35°C
Growing-finishing 16 to 110 kg	+15°C	+30°C
Pigs above 160 kg	+10°C	+28°C
Ewes	+6°C	+ 26°C
Lambs	+14°C	+21°C
Calves before weaning	+5°C	+25°C
Cattle ≤ 400 kg	Difference with outside temperature : no more than 3 to 6°C Comfort from -5°C to +25°C	
Cattle >400 kg and Cows		

SPACE ALLOWANCES

to allow animals to rest in lateral position

	Animal categories	(m ² /head)
Pigs	<10 kg	0.13
	10 kg > < 20 kg	0.20
	20 kg > < 30 kg	0.26
	30 kg > < 50 kg	0.37
	50 kg > < 85 kg	0.53
	85 kg > < 110 kg	0.63
	> 110 kg	0.96
	Sows ¹ (200 kg LW)	1.22
	Gilts ² (110 kg LW)	0.63
	Boars ³ (200 kg LW)	1.22
Sheep	Ewes	1
	Lambs	0,5
Cattle	Small calves (50 kg LW)	0.43
	Medium sized calves (110 kg LW)	0.73
	Heavy calves (200 kg LW)	1.10
	Medium sized cattle (325 kg LW)	1.52
	Heavy cattle (550 kg LW)	2.16
	Very heavy cattle (> 700 kg LW)	> 2.544

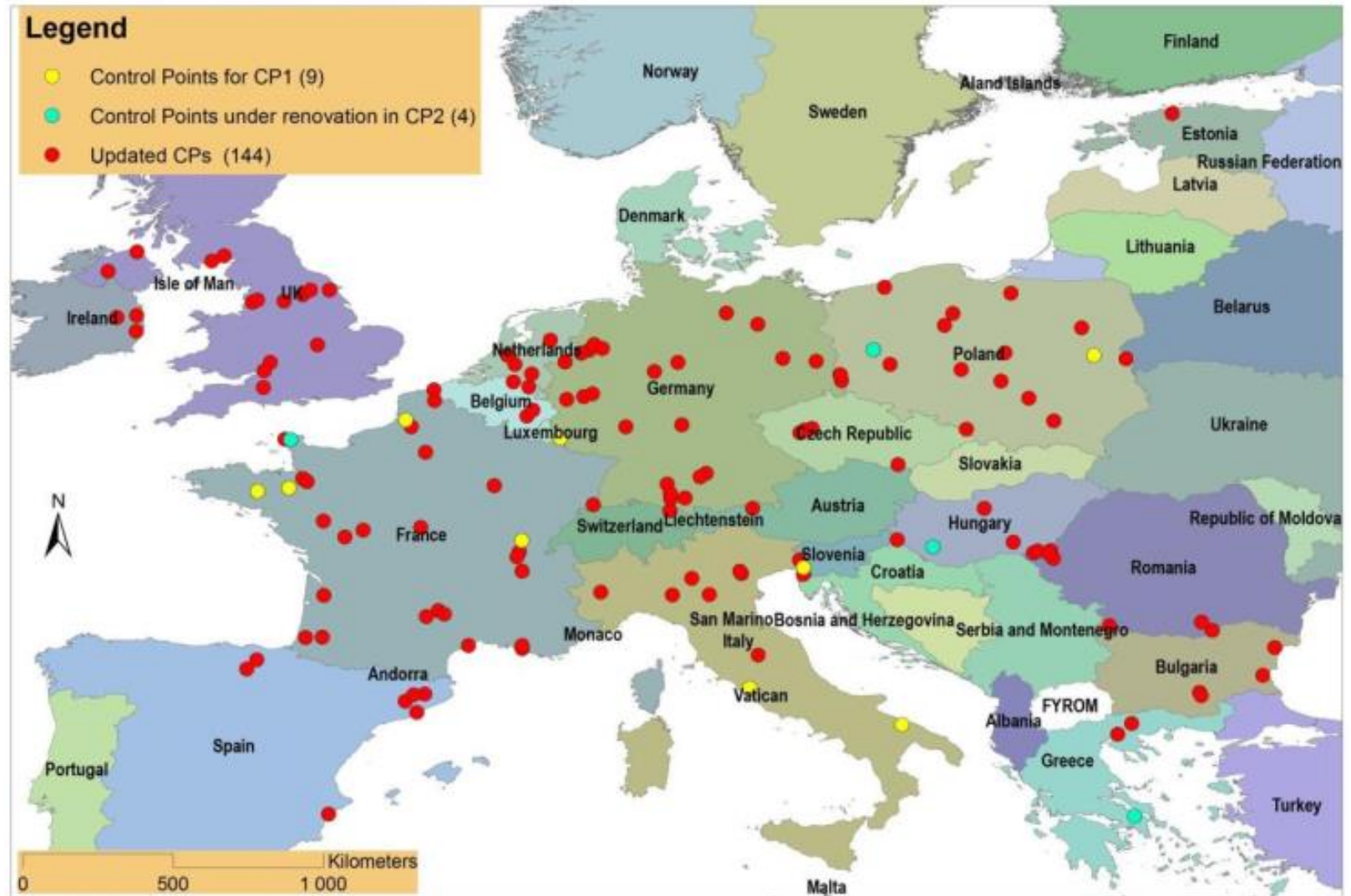
FEEDING AND WATERING

- The minimum quantity of feed to be provided
- should correspond to the food amount required for the animal's body maintenance, as shown
- Feed must be of homogeneous quality, in order to avoid any competitive behaviour for feeding.
- Food must be palatable and suitable for the species and age of the animals it is destined to
- Details in technical notes.

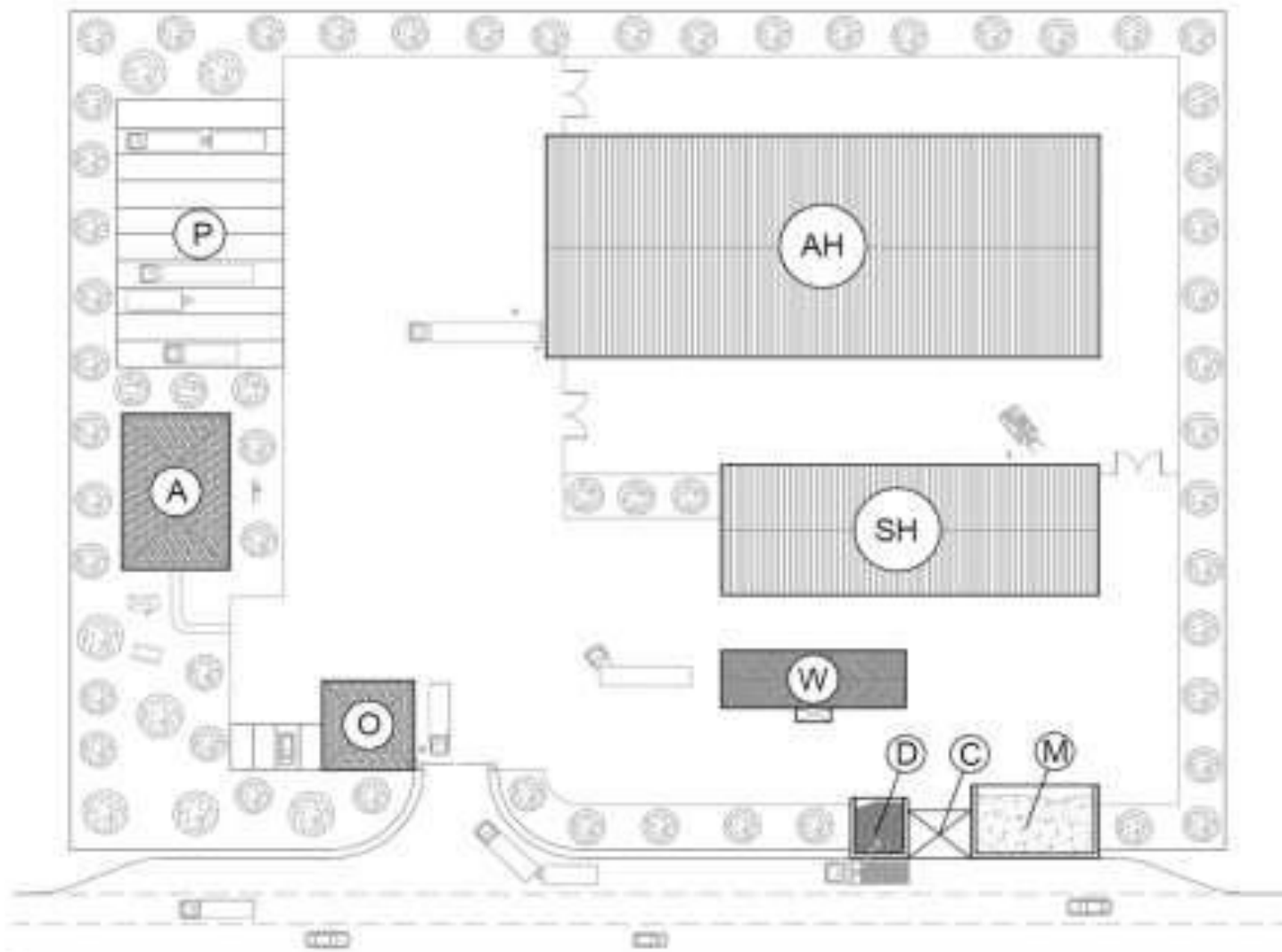
PIGS NOT USED TO DRINK FROM NIPPLE DRINKERS



Map of resting points in EC



PLAN OF RESTING POINT



A=Accommodation for drivers; **O**=Office; **AH**=Animal House; **SH**= Store House; **P**=Parking; **W**=truck Wash; **D**=Differentiated waste disposal; **C**=Cadaver storage; **M**=Manure storage

Thank you for your attention



WORLD ORGANISATION FOR ANIMAL HEALTH

Protecting animals, preserving our future