

3rd OIE conference on Animal Welfare – Implementing the OIE standards – addressing regional expectations



Killing of animals for disease control

Dr. Rebeca Garcia Pinillos,
United Kingdom, DEFRA

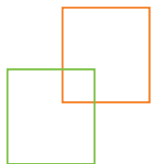


Acknowledgments

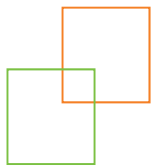
- UK CVO, Nigel Gibbens



- Animal Welfare Team DEFRA (Sue Ellis, Head of the AW Team, Geoff Webdale, AW slaughter and killing team) and AW researchers.
- Gordon Hickman, Head of contingency planning, AHVLA;

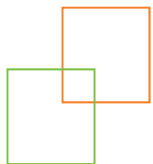


Acknowledgments



Overview

- Aim of killing for disease control
 - Why, how and when
- Contingency planning
- Methods: traditional / novel / improvements
- Developments in the EU / Ethics / Human welfare
- Conclusions

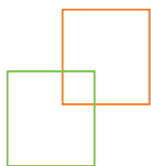


Aim of killing for disease control

Why ?

How ?

When ?



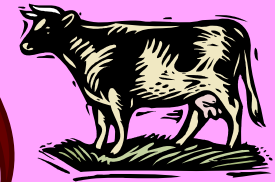
Aim – Why ?

Prevent

- disease spread within susceptible animal population

Remove

- infected animals - suffering
- animals at high risk – prevention

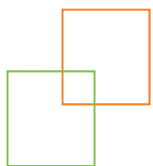
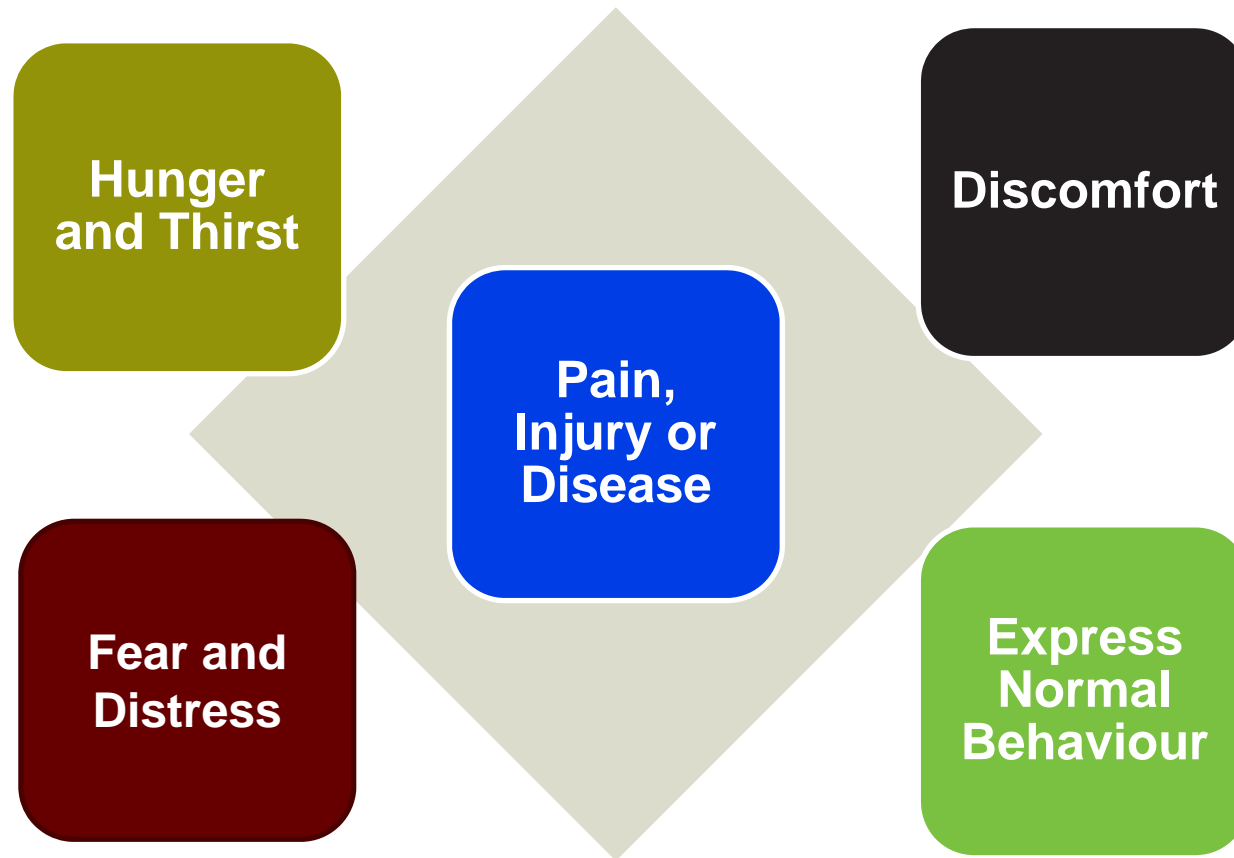


Maintain

- Sustainable food chain
- Health status
- Animal welfare
- Human health and welfare (Zoonoses)

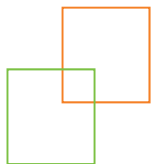
Aim – Why?

Suffering / prevention – 5 freedoms



Aim - How?

- Most **humane** way available
 - Timeliness
 - Logistics
 - Available resources
 - Health and safety – for people and the environment (biosecurity)

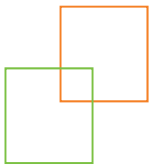


Aim – How ?

Preparation

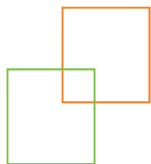
Preparation

Preparation

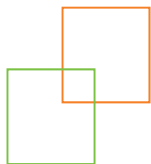
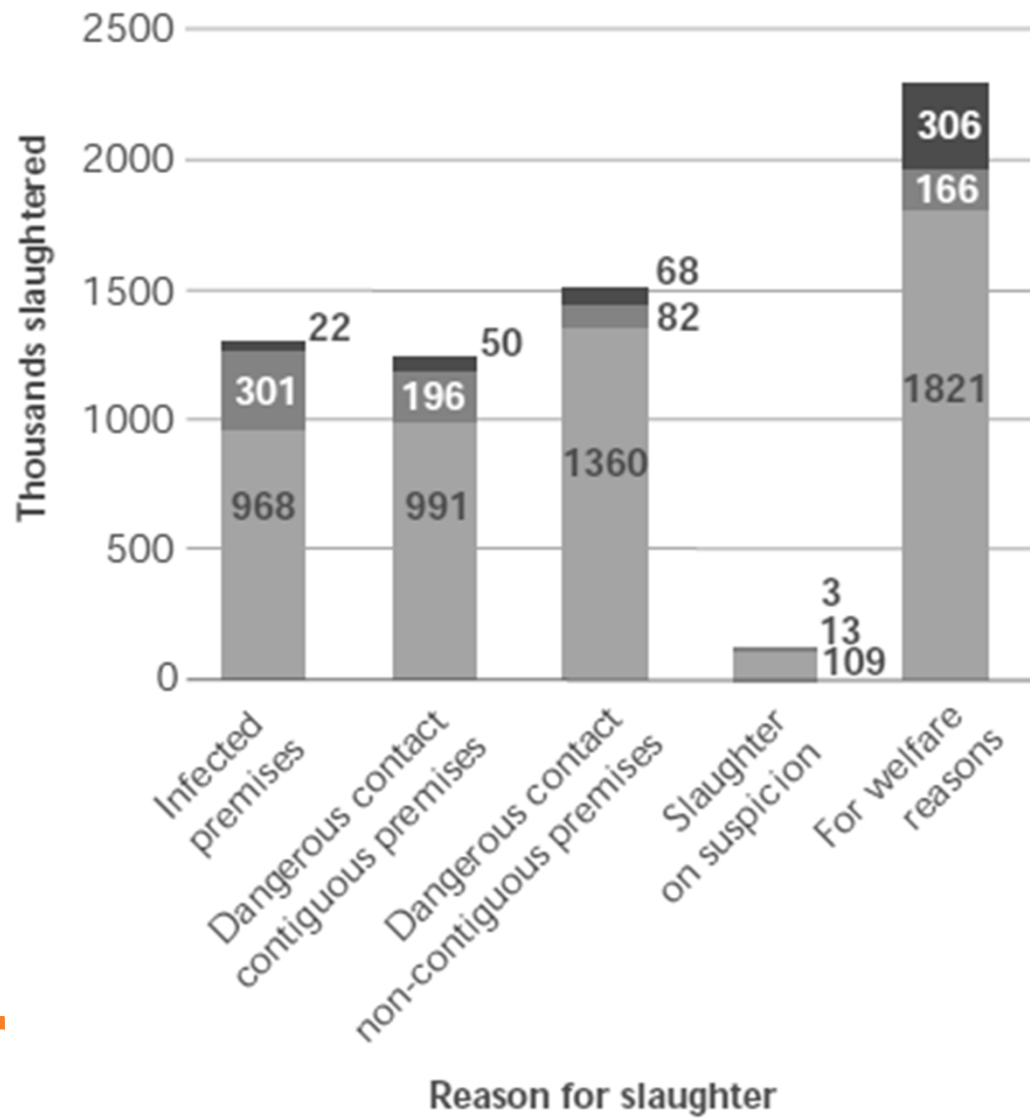


Aim – When ?

Very quickly	Highly infectious localised disease	Highly infectious localised disease	Highly infectious widely spread disease
Slow / medium pace	Non infectious / degenerative diseases - euthanasia	Non infectious / contamination / degenerative diseases - thinning	Widespread non infectious / contamination incidents
	Individual animals	Small number of animals (herds)	Large number of animals (zones)



Animals slaughtered for disease control and welfare purposes



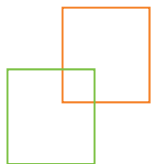
■ Sheep ■ Cattle ■ Pigs

Contingency planning

Prevent

Remove

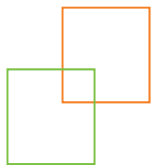
Maintain



Contingency plan

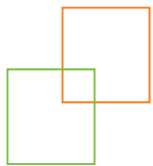
- Equipment
- Methods
- Timeliness
- Logistics
- Stakeholder engagement
- Training: slaughtermen and supervisors
- Media and communications

Animal welfare
Animal welfare



Courtesy of Troy Gibson, RVC

Contingency plan

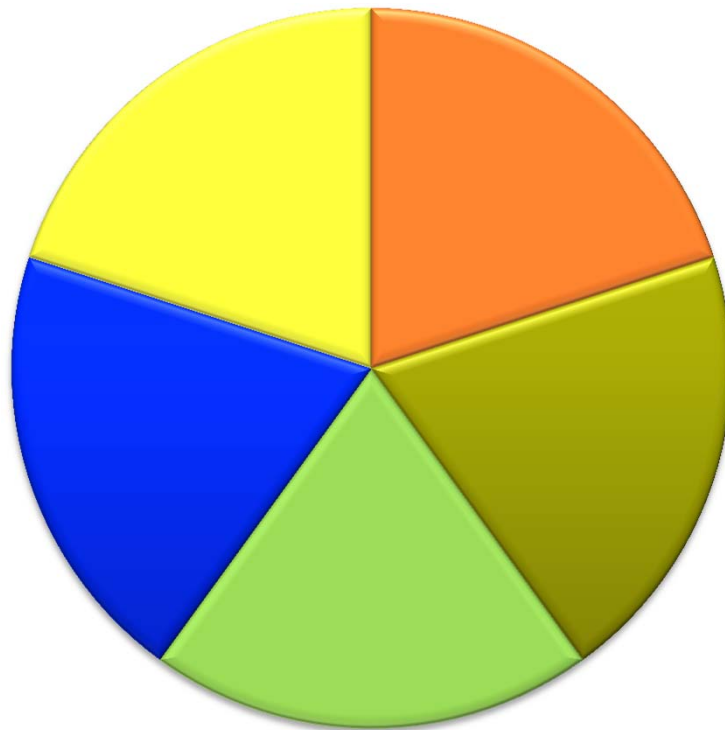


Prevent

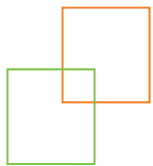
Remove

Maintain

Contingency plan – Responsibilities Pie

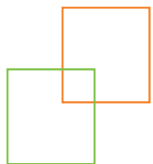


- Industry / Animal keepers
- Government Operational Delivery
- Government Policy Delivery
- Voluntary Sector
- Members of the public



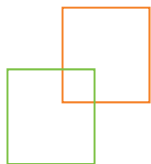
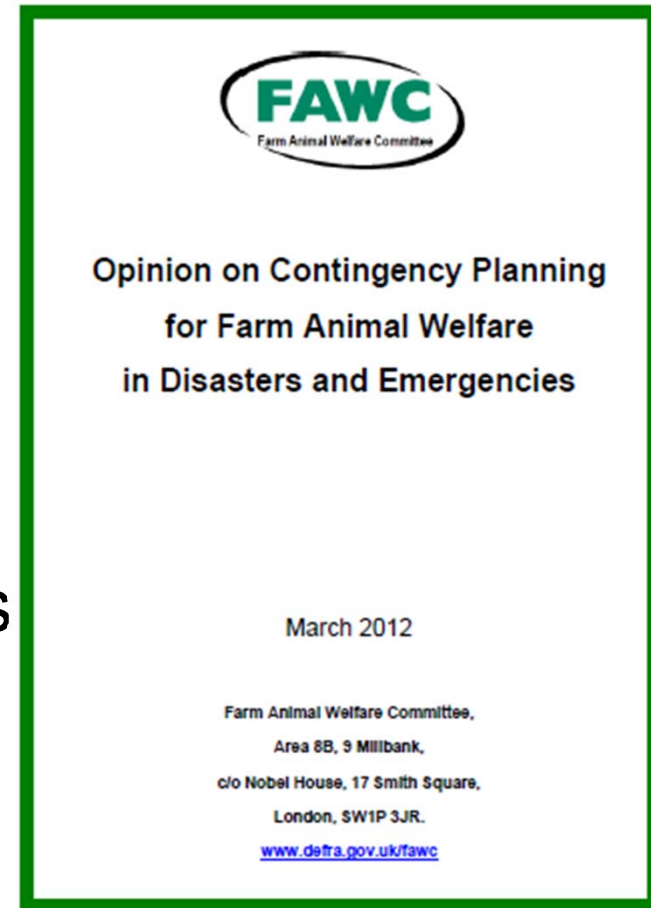
Contingency plan

- Robust
- Tested and up to date
 - if no disease national / local exercise
- Priorities for field operations
- Supported by resource
- Emergency response
- Levels: civil / national / local



Other applications: Disasters /emergencies

- Contamination incidents
 - Industrial accidents
 - Deliberate acts
- Severe weather
- Natural disasters
- Loss of power / technical issues
- Transport (i.e. no feed)
- Human disease

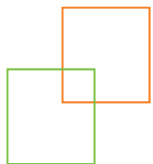


Stunning / killing methods

**Traditional
use**

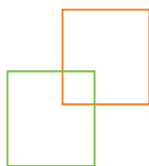
**Room for
improvement**

**New
Developments**



Methods

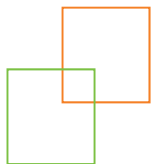
- Humane
 - including animal behaviour and handling
- Efficient
- Practical
- Safe for people and the environment
- Resilient – length of use
- Sustainable – cost / maintenance



Methods – traditional use

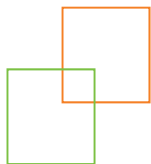


- Veterinary drugs (injection / feed / water)
- Maceration
- Captive bolt followed by pithing
- Free bullet
- Electrical stun / electrocution
- Gas



Methods – room for improvement

- Fire fighting foam – asphyxiation
- Skips and waste bins – smothering
- Cervical dislocation - operator fatigue / timings
- Decapitation – time to unconsciousness
- Aversive gases – CO₂, exhaust gases (impure CO), cyanide
- Poisonous substances



Methods – new developments

- Gas delivery

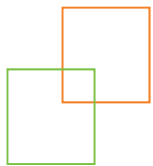
Whole house / Containerised / Gas filled foam



A.B.M. Raj, et al. Vet Record (2008) 162, 722-723

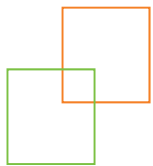
Methods – new developments

- Gas choices:
 - Ar/CO₂ – 80:20 – welding gas
 - CO₂ - Controlled **progressive** injection of CO₂ instead of immersion in high aversive concentrations
 - Nitrogen
- Validating concussion on piglets / kids



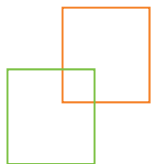
Methods – new developments

- Study on novel on farm methods for poultry
- Study on polled /horned ewes and rams captive bolt for killing
 - Recommendations on position, velocity and kinetic energy to cause irreversible concussion leading to death, monitoring signs and effects of repeated use.



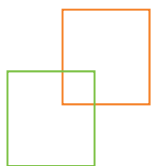
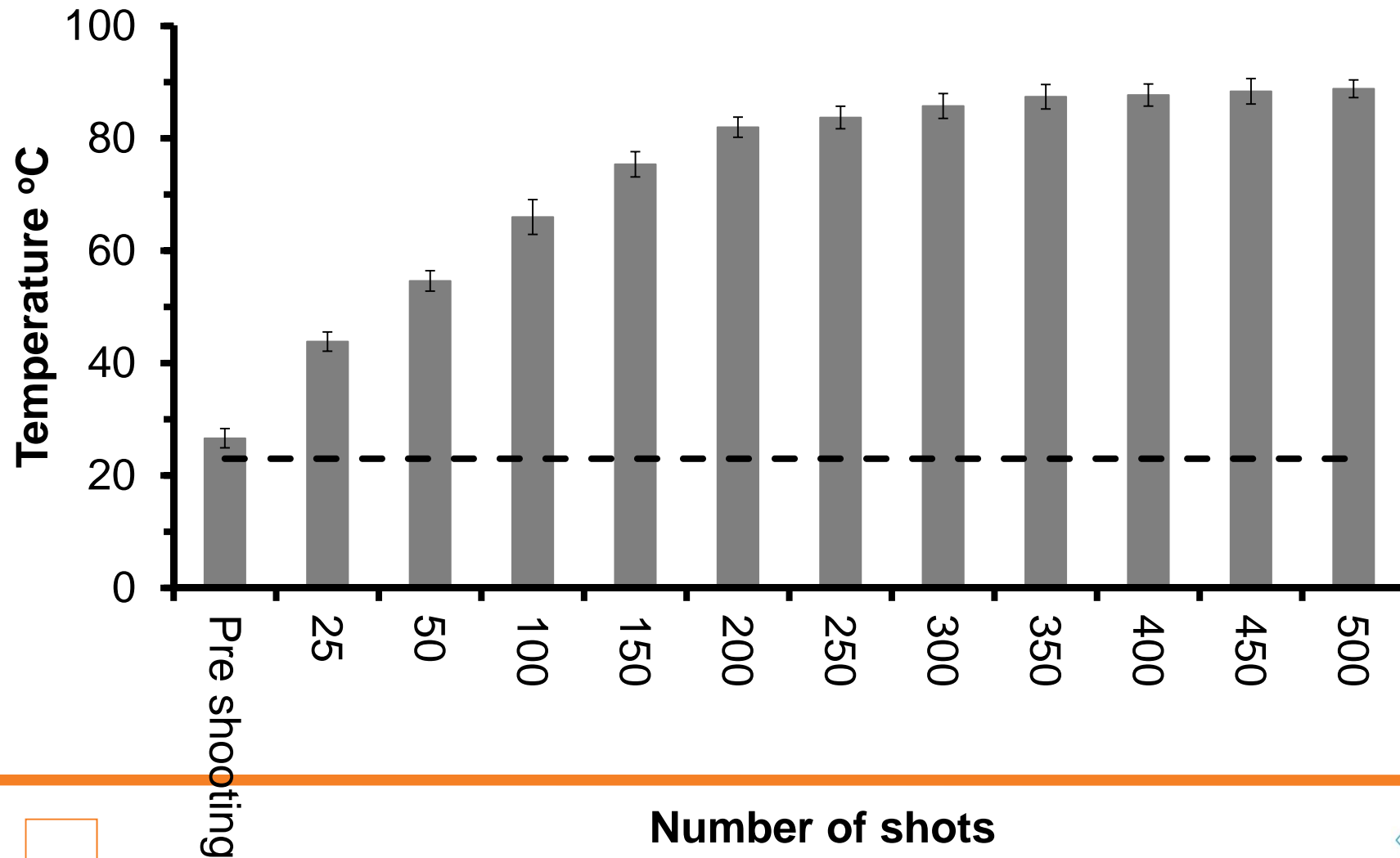
Courtesy of Troy Gibson, RVC

Methods – new developments



Gibson, T.J., Ridler, A.L., Lamb, C.R., Williams, A., and Gregory, N.G. (2012). MH0140 Studies to examine the use of captive bolt guns as a killing method for horned and un-horned sheep over six months of age. Final report. DEFRA

Methods – new developments



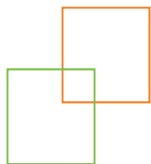
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Developments in the EU

- Regulation 1099/2009
 - Report depopulation operations
 - Number and species killed
 - Methods used
 - Description of difficulties encountered and solutions to alleviate or minimise animal suffering
 - Derogations from routine welfare slaughter

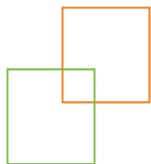


ADNS



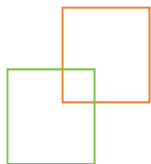
Ethics and human welfare links

- “Moral duty to protect the welfare of farm animals and prevent unnecessary suffering, including in disasters and emergencies” (FAWC, 2012)
- Human welfare
 - compromised if animal welfare is not protected
 - food security



Conclusions

- Animal Welfare – integral part of contingency plans for disease control killing
- Most **humane** way available:
 - Timeliness
 - Logistics
 - Available resources
- Contingency plans – expand to emergencies other than disease





- Dr. Rebeca Garcia Pinillos
- rebeca.garcia@defra.gsi.gov.uk