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Sanitary and Veterinary Issues in Cryo-Conservation - New developments?

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Content

- OIE
- EU-Legislation
- Possibilities and problems
- Whats new – no attempt at completeness
  - Diagnosis opportunities
  - Genetic opportunities
- Conclusions and questions

OIE

World Organisation for Animal Health

- Aims (selection)
  - Safeguard world trade by publishing health standards for international trade in animals and animal products
  - Improve the legal framework and resources of national Veterinary Services
- 116 diseases listed for 2017
- 23 multi-species diseases

OIE recommendations

- Base of legislation (national and international)
  - EU legislation sometimes exceeds OIE recommendations
- Consider commensurability

  but
- *do not mention conservation of genetic resources!*

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EU legislation: Semen, Ova, Embryos

- Bovine – frozen semen
  - Council Directive 88/407/EEC
  - Directive 2003/43/EC (intra Union trade)
  - Council Directive 2011/630/EEC (Import third countries)
- Bovine – frozen ova & embryos
  - Council Directive 89/556/EEC
  - Directive 2008/73/EC (Trade, approved collection centres)
  - Commission decision 2006/168/EU (Import)

EU legislation: Semen, Ova, Embryos

- Porcine – fresh semen
  - Council Directive 90/429/EEC (intra Union trade)
  - Directive 2008/73/EC (intra Union trade, appoved collection centres)
  - Commission Decision 2012/137/EU
- Porcine – fresh and frozen ova & embryos
  - Council Directive 92/65/EEC (intra Union trade)
  - Directive 2008/73/EC (Trade, appoved collection and transfer teams)
  - Commission Decision 2008/636/EC (Import third countries)

EU legislation: Semen, Ova, Embryos

- Ovine & Caprine – fresh and frozen semen, ova, embryos
  - Council Directive 92/65/EEC
  - Commission Decision 2010/470/EU (certificate for intra Union trade)
  - Commission Decision 2010/472/EU (Import third countries)

EU legislation: Semen, Ova, Embryos

- Equine – fresh and frozen semen, ova, embryos
  - Council Directive 92/65/EEC
  - Directive 2008/73/EEC (intra Union trade)
  - Commission Decision 2010/470/EU (Health certificates
  - Commission Decision 2004/2011/EU (Import)
- Other species - fresh and frozen semen, ova, embryos
  - National measures according to the general principles of Council Directive 92/65/EEC

Sanitary & Veterinary Issues

- Sanitary conditions under which material is collected, stored, …
- Sanitary requests to be met by the donor animal
- Veterinary issues according to current international and/or national regulations and laws
- Genetic hygiene – hereditary defects, ...

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Possibilities of S & V

- Enable safe national and international exchange and use of material
- Ensure harmonized practices in collecting, storing material
- Protect against the spread of infective diseases and zoonoses and hereditary defects

Problems & Questions

- Regulations not tailored to genebanking
  - National derogations as solution?
- Regulations consider only mainstream breeds biotechnical infrastructure well established
  - Endangered local and (regional) transboundary breeds?
- „Clumsiness“ - cannot integrate newly developed methods for analyzing fast enough

Example Bluetongue

- Agent Reovirus – 24 serotypes (so far)
- Very stable (years) in presence of protein
- Limited to ruminantd, not transmittable to humans
- Sources of infection
  - Gnats
  - Blood
  - Semen (!)
- Strict regulations for AI centres and use of semen in EU

Example Bluetongue

- Strict limitations to tradeof semen in EU-legislation
- Depending on risk status of member country

  but
- PCR diagnosis possible
- Just test semen charge and if o.k. use it = national derogation

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Example *M.agalactiae*

- Infectious agent Mycoplasma
  - Mastitis, destruction of the udder in small ruminants
  - Male animals are transmitters
- Transmissible by frozen semen!
- Economically very important, Animal Welfare issues
- Legislation demands ELISA – not reliable in males, not available for old samples
- Solution: Species-specific PCR from semen
- *But – method still not accredited!*

Conclusions and questions concerning genebanks

- EU legislative allows exceptions within limits
  - Priviledged premises – AI centres, semen depots
  - Genebanks not mentioned
- National emergency plans (NEP)
- How to integrate into NEP – discussion
- National derogations for gene bank material
- Old genebank material – new diagnosis methods (like PCR for infectious agents)

Conclusions

- EU regulations on disease control may prevent use of genebank material
- National derogations increasingly important
- New methods and opportunitites for diagnosis can ensure not to use infective material.
- Should make derogations easier
- Responsibility of countries – contact governments

Thank you for

questions, comments, discussion

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