HASAC report

Bangkok

HASAC

- **Research subcommittee** (Francis Fieni)
  - reviews the litterature concerning pathogens and embryos each year
  - draws scientific conclusions on whether this should affect pathogen classification and/or procedures
  - organizes workgroups working throughout the year to explore specific questions
  - considers questions sent by IETS members or affiliate societies
  - conclusions added to HASAC research update database *(to be updated for the online available version)*
  - conclusions passed on to regulatory subcommittee for possible actions

HASAC

- **Regulatory subcommittee** (Grant Clarke)
  - reviews conclusions from research subcommittee from a regulatory point of view
  - considers questions sent by IETS members or affiliate societies
  - organizes workgroups working throughout the year to explore specific questions
  - passes motions on changes of category and/or procedure recommendations to be passed on to OIE
  - the motions are then presented to BoG for approval
  - then presented to OIE for a change in the terrestrial code (voted at OIE in January of the following year)

HASAC

- **Manual and Forms & certificates subcommittee (Francis Fieni)**
  - Guidelines used by many associate societies
  - since a few years, possible to get it online
    - complete 4th edition
    - New chapters for 5th edition arrive progrssively online

HASAC

- Previous 3-4 years : Chair (Hasac + research and manual subcommittees) : Francis Fieni (ONIRIS vet school, France)
  - Francis has resigned in late December due to new professional circumstances
  - Pascale Chavatte-Palmer (INRA France) stands up as temporary chair at 2018 IETS
  - Julie Gard (Auburn university, USA)

Thank you very much Francis!

New subcommittee chairs subject to Julie Gard's approval

- **Research Subcommittee : Lamia Briand**, senior lecturer at ONIRIS veterinary school, France, specialized in ruminant reproduction.
  - *Pa*scale Chavatte-Palmer will act as Research subcommittee chair until Lamia is available in November, 2018

- **Manual subcommittee : Sudharma (Sue) Leelawardana**, Ministry for Primary Industries, New Zealand
  - with the help of Pietro Baruselli, Gabriel Bo, Brigitte Le Guienne, Julie Gard, Reuben Mapletoft, the affiliate societies… **and ALL OF YOU**

What are the actions this year?

- Research subcommittee
  - 4 papers and one abstract reviewed => no changes in pathogen categories`
  - working group on merging category 2 and 3

- Regulatory subcommittee
  - One motion passed, approved by BoG :

« Bovine granulosa cells or co-culture cells used for in-vitro culture (IVC) are from donors free from BVDV **AND EITHER:**

1. No measures are required for a BVD free country. A country may be considered free from BVD provided it meets the general principles in Chapter 1.4. and that no cases of BVD occurred in the past two years **OR**
2. Donors are tested negative for BVD at the time of oocyte collection with a real-time PCR or 2 pass virus isolation test using a whole blood sample. If donors are vaccinated for BVD they must be vaccinated more than 30 days prior to IVP embryo production. **OR**
3. IVP embryo fluids are tested negative for BVD with a validated real-time PCR or 2 pass virus isolation test »

What are the actions this year?

- Manual subcommittee
  - New manual extended to all species and SOP related to disease prevention
  - New chapter 4 online
  - several chapters on the way
  - lots of work still, with the help of affiliate societies

- We will try and move the timing of the open HASAC meeting so that you all can come!

RESEARCH SUBCOMMITEE

Friday, January 12 9:00 – 15:00

Attendees:

Andrea Basso (In Vitro Brasil)
Pascale Chavatte-Palmer (French National Institute for Agricultural Research)
Rikki Ciolek (Department of Agriculture and Water Resources, Australia)
Grant Clarke (Ministry for Primary Industries, New Zealand) (Chair)
Joao Henrique Moreira Viana (Brazilian Agricultural Research Corporation)
Miki Sakatani (National Agriculture and Food research Organization, Japan)

Excused : Francis Fieni, Anne Holmes, Nicole Shaefer, Sara Kaman, Julie Gard, George Perry

CATEGORY	DEFINITION	COMMENT
Category 4 **Category 4 diseases or pathogenic agents are those for which studies have been done, or are in progress, that indicate:** **that no conclusions are yet possible with regard to the level of transmission risk; or** **the risk of transmission via embryo transfer might not be negligible even if the embryos are properly handled in accordance with the IETS Manual between collection and transfer.**	This category indicates that diseases or pathogenic agents cannot move to Category 3 on the basis that there is • sufficient evidence to show that the risk of transmission is not negligible or • insufficient preliminary evidence due to no in vitro and in vivo experimental data, transfers data, etc.	
Note OIE Code and IETS documents state "diseases", not "diseases or pathogenic agents" as with all other categories. **Only three diseases or pathogenic agents in this category.** **What is the value of separating Category 2 and 3?**		
findings.	transfers data.	experimental data show that the risk of transmission is not negligible?
Proposition to merge categories 2 and 3 **=> Since non of the people involved in the working group were present, it was decided to extend the working group to the whole subcommittee and postpone decision to next year**		
Category 1 **Category 1 diseases or pathogenic agents are those for which sufficient evidence has accrued to show that the risk of transmission is negligible provided that the embryos are properly handled between collection and transfer in accordance with the IETS Manual.**	This category indicates that diseases or pathogenic agents meets Category 1 on the basis that there is • sufficient evidence has accrued to show that the risk of transmission is negligible and • this evidence is supported by sufficient in vitro and in vivo experimental data and embryo transfers data.	Not all diseases or pathogenic agents in this Category have sufficient • in vitro experimental data • in vivo experimental data AND • embryo transfers data. Eg No in-vitro experimental data for classical scrapie.

RESEARCH SUBCOMMITEE

4 papers and one abstract were reviewed

BVDV (currently in category 3)

da Silva Cardoso Pinto V., et al 2017. Effects of oocytes exposure to bovine diarrhea viruses BVDV-1, BVDV-2 and Hobi-like virus on in vitro-produced bovine embryo development and viral infection. Theriogenology 97, 67-72.

In vitro produced embryos + experimental infection in vitro

=> IETS wash not sufficient to remove viruses but for Hobi-like virus

González Altamiranda E.A. et al. 2016. Interaction of bovine viral diarrhea virus with bovine cumulus–oocyte complex during IVM: Detection in permissive cells. Theriogenology 86, 1999-2003

Explore mechanisms by which the virus can enter into to oocyte

=> Not enough data for change in category of BVDV
=> working group to consider separately the different categories of BVDV

RESEARCH SUBCOMMITEE

4 papers and one abstract were reviewed

Coxiella burnetii (currently in category 4)

Pellerin J.L., A. et al.i 2018. Attachment of Coxiella burnetii to the zona pellucida of in vitro produced goat embryos. Theriogenology 106, 259-264.

=> Extends data from in vivo embryos, no change in category

Foot and mouth disease (currently in category 1 for cattle)

Ranjan R., J.K. Biswal, S. Subramaniam, K.P. Singh, C. Stenfeldt, L.L. Rodriguez, B. Pattnaik and J. Arzt 2016. Foot-and-Mouth Disease Virus-Associated Abortion and Vertical Transmission following Acute Infection in Cattle under Natural Conditions. Plos One 11, e0167163.

=> This study is of limited interest for us and does not led to a change in category. It nevertheless underlines a possible vertical transmission of infection

RESEARCH SUBCOMMITEE

4 papers and one abstract were reviewed

Brucellosis (currently in category 4 in sheep, 1 in bovine)

ABSTRACT - Emsen, M. Kutluca Korkmaz, H. Demirezer. Detection of Brucellosis in seropositive superovulated sheep embryo flushing media E. A270E Embryology, Developmental Biology and Physiology of Reproduction. Proceedings of the 30th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)

It has been suggested that ovine ZP is 'stickier' than that of bovine embryos, and less likely to resist penetration and adherence of pathogens. Here, uterine flushings from contaminated donor ewes were free from B mellitensis, ovis and abortus contamination.

=> Extends data from in vivo embryos, paper awaited, no change in category for now

RESEARCH SUBCOMMITEE

4 papers and one abstract were reviewed

⇒ **Do we miss papers as we don't have a standardized protocol to look for papers?**

=> A working group is to be organized by the new HASAC chair and the new research subcommittee chair to define those words. Once defined, the search will need to include the last few years to see if we missed much. The search will then be performed every year on the last 12 months.

REGULATORY SUBCOMMITEE

Friday, January 12 14:00 – 15:00

Attendees:

Andrea Basso (In Vitro Brasil)
Pascale Chavatte-Palmer (French National Institute for Agricultural Research)
Rikki Ciolek (Department of Agriculture and Water Resources, Australia)
Grant Clarke (Ministry for Primary Industries, New Zealand) (Chair)
Joao Henrique Moreira Viana (Brazilian Agricultural Research Corporation)
John Hepburn (Animal Breeding Service, New Zealand)
Miki Sakatani (National Agriculture and Food research Organization, Japan)

REGULATORY SUBCOMMITEE

1. Finalised BVDV requirements for IVP embryos.

In 2017 an electronic working group was established to develop these measures.

Final measures:

Bovine granulosa cells or co-culture cells used for in-vitro culture (IVC) are from donors free from BVDV.

AND

REGULATORY SUBCOMMITEE

Final measures: continued from previous slide

EITHER:
1. No measures are required for a BVD free country. A country may be considered free from BVD provided it meets the general principles in Chapter 1.4. and that no cases of BVD occurred in the past two years.

OR:
2. Donors are tested negative for BVD at the time of oocyte collection with a real-time PCR or 2 pass virus isolation test using a whole blood sample.
If donors are vaccinated for BVD they must be vaccinated more than 30 days prior to IVP embryo production.

OR:
3. IVP embryo fluids are tested negative for BVD with a validated real-time PCR or 2 pass virus isolation test

REGULATORY SUBCOMMITEE

Recommend to the IETS Board that these measures are sent to the OIE for inclusion in the OIE Code.

The Regulatory Subcommittee will develop the suggested amendments to the OIE Code.

REGULATORY SUBCOMMITEE

2. Australia has finalised import conditions for IVP embryos from Canada and the US

USDA and Australian officials have an agreed certificate.

CFIA and Australian officials are still negotiating the certificate.

REGULATORY SUBCOMMITEE

3. Washing of IVP embryos

Various discussions were held on a proposal to have more detail on IVP embryo washing. This was discussed further in the Manual Subcommittee and will be considered during the update of the Manual chapters.

REGULATORY SUBCOMMITEE

4. Participation in Regulatory Subcommittee

Attendance by IETS members is welcomed at this Subcommittee.

There is a need to have a balance between government and practitioner experience to operate effectively.

Aim of the Subcommittee is the safe trade in embryos, need to ensure that measures to achieve this are practical.

Next meeting to be held on Friday 18 January 2019.

Please email grant.clarke@mpi.govt.nz if you'd like to attend.

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Sunday, January 12 12:30 – 14:55

Attendees:
Pietro Baruselli (USP, Brazil)
Andrea Basso (In Vitro Brazil)
Pascale Chavatte-Palmer (French National Institute for Agricultural Research)
Rikki Ciolek (Department of Agriculture and Water Resources, Australia)
Grant Clarke (Ministry for Primary Industries, New Zealand) (Chair)
Joao Henrique Moreira Viana (Brazilian Agricultural Research Corporation)
John Hepburn (Animal Breeding services, New-Zealand)
Katrin Hinrichs (Texas A&M, USA)
Minjung Kim (Seoul University, Korea)
Brigitte Le Guienne (Allice, France)
Brad Lindsay (Ovitra, USA)
Richard Remillard (Trans Ova Genetics, USA)
Miki Sakatani (National Agriculture and Food research Organization, Japan)

Apologies:
Francis Fieni, Anne Holmes, Nicole Shaefer, Sara Kaman, Julie Gard, George Perry

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

New Manual

Objectives :

- **Extend manual to non-bovine species**
- **Provide SOP to IETS members**

Two parts :

Part I: SOP

Part II: SCIENTIFIC BACKGROUND AND RECOMMENDATIONS

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part I: SOP

1/ SOPs- guidelines to be available but not too prescriptive to protect intellectual property (IP)

2/ The SOPs need to focus on traceability, herd health, sterile technique, disease transmission, not basics on how to synch cows or produce embryos

3/ SOPs should not repeat what is in the chapters but refer to them when necessary

Motion: SOPs to focus on standardized procedures to control traceability, quality control and prevention of disease transmission necessary to promote trade. The SOP should be harmonised with the relevant scientific background chapter.
First- Richard, Second Brad. Motion passed.

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part I: SOP

1/ Species other than cattle

=> procedures that differ from cattle should be underlined

2/ Reviewing process?

=> reviewing process should be more a “contributor addition” from different parts of the world highlighting regional specificities

=> Affiliate societies will be contacted to provide appropriate “contributors”

3/ for specific questions not related to SOP scope, IETS members should refer to **IETS Embryo Chat Listerv**

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part I: SOP

- Cattle
- Equine
- Pig
- Small ruminants
- Cervids
- Camelids
- Alpaca
- Bisons
- Dogs
- Cats
- Exotics and wild species
- Rabbit
- Rat
- Mice

Help needed not necessarily long contribution

Email :
Sue
Sudharma.Leelawardana@mpi.govt.nz

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part II: Reviews

- Chapter 1. Ethical and welfare considerations for embryo biotechnology in the 21st century

Scope to be discussed, Brad Lindsay to organize an email working group

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part II: Reviews

- Chapter 1. Ethical and welfare considerations for embryo biotechnology in the 21st century Scope to be discussed, Brad Lindsay to organize an email working group
- Chapter 2. Scientific foundations for the epidemiological safety of embryo Transfer
- **Chapter 3**. Potential for disease control or transmission via oocytes / embryos: A review.
- **Chapter 4. General sanitary procedures considerations associated with in vivo derived bovine embryos ON LINE**
- Chapter 5. General sanitary procedures associated with bovine oocytes and in vitro production of embryos.
- **Chapter 6. Risk Review of contamination of germ plasm during cryopreservation and cryobanking Exotics and wild species** *needs to be uploaded because not changed*
- Chapter 7. Use of antimicrobial substances in embryo production

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part II: Reviews

- **Chapter 8**. Quality control practices in an embryo production Laboratory except freezing
- **Chapter 9**. Certification and identification of embryos
- **Chapter 10**. General recommendations and standard procedures for the health care and wellbeing of animal clones
- **Chapter 11**. Safety of food derived from animal clones => *needs to be uploaded because not changed*
- **Chapter 12.** Long term effects on the well-being of offspring produced by embryo technologies
- **Chapter 13**. Equine species : specificity and disease control or transmission
- **Chapter 14**. Porcine species : specificity and disease control or transmission
- **Chapter 15.** Small ruminants : specificity and disease control or transmission
- **Chapter 16.** Cervids: specificity and disease control or transmission
- **Chapter 17**. Camelid : specificity and disease control or transmission
- **Chapter 18.** Bison: specificity and disease control or transmission

MANUAL AND FORMS & CERTIFICATES SUBCOMMITEE

Part II: Reviews

- **Chapter 19.** Companion Animals : specificity and disease control or transmission
- **Chapter 20.** Exotics and Wild species : specificity and disease control or transmission
- Chapter 21. Laboratory Species, separate mice and rats, rabbits

- Appendix D. Photographic illustrations of embryo developmental stage and quality codes

HASAC
We need your help …
You need to help…for your own trade!

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