

# IETS recommendations regarding the risk of disease transmission via *in vivo* derived embryos

Based on the conclusions of the Research Subcommittee of the Health and Safety Advisory Committee (HASAC) of the IETS<sup>1</sup>, the following diseases and pathogenic agents are categorized into four categories, which applies only to *in vivo* derived embryos.

## 1. Category 1

a. 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 according to the IETS Manual<sup>2</sup>.

b. The following diseases or pathogenic agents are in category 1:

Aujeszky's disease (pseudorabies) (swine): trypsin treatment required

Bluetongue (cattle)

Bovine spongiform encephalopathy (cattle)

*Brucella abortus* (cattle)

Enzootic bovine leukosis

Foot and mouth disease (cattle)

Infectious bovine rhinotracheitis: trypsin treatment required

Scrapie (sheep).

## 2. Category 2

a. Category 2 diseases are those for which substantial evidence has accrued to show that the risk of transmission is negligible provided that the embryos are properly handled between collection and transfer according to the IETS Manual<sup>2</sup>, but for which additional transfers are required to verify existing data.

b. The following diseases are in category 2:

Bluetongue (sheep)

Caprine arthritis/encephalitis

Classical swine fever (hog cholera).

## 3. Category 3

a. Category 3 diseases or pathogenic agents are those for which preliminary evidence indicates that the risk of transmission is negligible provided that the embryos are properly handled between collection and transfer according to the IETS Manual<sup>2</sup>, but for which additional *in vitro* and *in vivo* experimental data are required to substantiate the preliminary findings.

b. The following diseases or pathogenic agents are in category 3:

Bovine immunodeficiency virus

Bovine spongiform encephalopathy (goats)

Bovine viral diarrhea virus (cattle)

*Campylobacter fetus* (sheep)

Foot and mouth disease (swine, sheep and goats)

*Haemophilus somnus* (cattle)

Maedi-visna (sheep)  
*Mycobacterium paratuberculosis* (cattle)  
*Neospora caninum* (cattle)  
Ovine pulmonary adenomatosis  
Porcine circovirus (type 2) (pigs)  
Porcine reproductive and respiratory disease syndrome (PRRS)  
Rinderpest (cattle)  
Swine vesicular disease

#### 4. Category 4

- a. 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 according to the IETS Manual<sup>2</sup> between collection and transfer.

- b. The following diseases or pathogenic agents are in category 4:

African swine fever  
Akabane (cattle)  
Bovine anaplasmosis  
Bluetongue (goats)  
Border disease (sheep)  
Bovine herpesvirus-4  
*Chlamydia psittaci* (cattle, sheep)  
Contagious equine metritis  
*Coxiella burnettii*  
Enterovirus (cattle, swine)  
Equine arteritis virus  
Equine herpesvirus 3 (equine coital exanthema)  
Equine rhinopneumonitis  
*Escherichia coli* 09:K99 (cattle)  
*Leptospira borgpetersenii* serovar *hardjobovis* (cattle)  
*Leptospira* sp. (swine)  
Lumpy skin disease  
*Mycobacterium bovis* (cattle)  
*Mycoplasma* spp. (swine)  
Ovine epididymitis (*Brucella ovis*)  
Parainfluenza-3 virus (cattle)  
Parvovirus (swine)  
Scrapie (goats)

*Taylorella equigenitalis*

*Tritrichomonas foetus* (cattle)

*Ureaplasma/Mycoplasma* spp. (cattle, goats)

Vesicular stomatitis (cattle, swine).

1. Based on available research and field information, the Research Subcommittee of the Health and Safety Advisory Committee (HASAC) of the International Embryo Technology Society (IETS) has categorized some diseases based on their relative risk of dissemination by properly processed and handled *in vivo* derived embryos. This chapter that contains the complete list of IETS categorized diseases is shown in Article 4.7.14.

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