

1. Please outline the health checks and quarantine arrangements that are made on donor bulls and on their semen to ensure the biosecurity of the AI process.

1 DONOR BULLS

All bovine animals admitted to an EC-approved Semen Collection Centre (SCC) must comply with the following requirements:

- i. Be identifiable in accordance with EU legislation
 - ii. They must have completed all animal health testing laid down in Annex B, Chapter 1 of Directive 2003/43/EC.
 - iii. All tests must be carried out in a laboratory approved by the Member State.
 - iv. No animal showing any clinical sign of disease may be admitted to a Semen Collection Centre.
 - v. Bulls must have been subjected to a period of quarantine of at least 28 days in accommodation specifically approved for the purpose by the competent authority of the Member State, and where only other cloven-hoofed animals having at least the same health status are present.
 - vi. Prior to their stay in the quarantine accommodation they must have belonged to a herd which is officially TB free and officially brucellosis free in accordance with Directive 64/432/EEC. The animals shall not previously have been kept in a herd of a lower status.
 - vii. They must have either:
 - a. come from a herd officially free of enzootic bovine leucosis as defined in Directive 64/432/EEC, OR
 - b. been produced by dams which have been subjected, with negative results, to a test carried out in accordance with Annex D (Chapter II) to Directive 64/432/EEC, after removal of the animals from their dam. In the case of animals derived by embryo transfer, 'dam' means the recipient of the embryo.
- If this requirement cannot be fulfilled, the semen shall not be the subject of trade until the donor has reached the age of two years and has been tested negative for EBL.
- viii. With only one specific exception (movement of animals between approved semen collection centres which is a movement subject to specific controls) all animals entering an EC-approved SCC must come from approved quarantine accommodation.
 - ix. On the day that animals are moved between the quarantine accommodation and the SCC, the quarantine accommodation must officially fulfil the following conditions:
 - a. It must be situated at the centre of an area of 10 kilometres radius in which there has been no case of foot-and-mouth disease for at least 30 days.
 - b. It must have been free from FMD and brucellosis for at least three months.
 - c. It must have been free from any bovine diseases that are compulsorily notifiable in accordance with Annex E to Directive 64/432/EEC.
 - x. Animals may only be admitted to the SCC with the express permission of the centre veterinarian.

xi. All movements, both in and out, of the SCC must be recorded. These records must be available for audit by an official veterinarian at the time of routine compulsory inspections.

All bovine animals kept at an EC-approved SCC must be subjected to tests for tuberculosis, Brucellosis, Enzootic Bovine Leucosis, Infectious Bovine Rhinotracheitis/Infectious Pustular Vaginitis, Bovine Viral Diarrhoea/Mucosal Disease, *Campylobacter fetus* ssp. *Venerealis*, *Trichomonas foetus* at least once a year.

All tests must be carried out in a laboratory approved by the Member State.

2 SEMEN

Collection, processing and storage of semen may only take place in approved SCCs which are under supervision of a veterinarian approved by the competent authority of the Member State. Approval of an SCC includes ensuring such measures as

- no contact with livestock other than those admitted in accordance with official requirements
- no entry by unauthorised personnel
- staff employed must be technically competent and trained in hygiene and cleaning and disinfection techniques
- all processes and collection must be carried out under conditions of strict hygiene and with full traceability
- there must be no contact with semen of a lower health status
- products of animal origin used as diluent must be disease free
- antibiotics must be added to semen at prescribed levels
- the cryogenic agent must not have been used previously for products of animal origin
- semen must be stored for minimum 30 days prior to dispatch

3 CHECKS BY FOOD AND VETERINARY OFFICE (FVO)

The FVO is the EU body responsible for carrying out checks on standards both within the EU and in 3rd countries exporting to the EU. Many AI inspections have been carried out in recent years. 3rd country imports from Australia were closed for a time until strict compliance with requirements was demonstrated. The main problem was lack of supervision by the competent authorities.

I believe this demonstrates the gravity with which the requirement for full compliance is held.

4 PROPOSED JERSEY LEGISLATION

Jersey will enact by order all the requirements set by the EU for the control of disease in AI. This draft order is attached to the Report & Proposition for bringing in the new regulations which will allow the importation of semen.

2. Are there standards for biosecurity in the international semen trade and do countries differ in the rigour of their standards?

Standards for biosecurity in the international trade are laid down by Office International de Epizooties (OIE).

These can be found at http://www.oie.int/eng/normes/mcode/anciens%20fichiers%20mcode%20pour%20an%202004/en_chapitre_3.2.1.htm

The standards are recognised by the World Trade Organisation.

Semen imported to the EU must meet the standards described in the reply to Question 1. EU standards are equal to OIE Animal Health Code standards. Semen may only enter the EU through designated entry points accompanied by official certification from the exporting country.

Any country which does not comply with the standards is not permitted to trade with the EU as outlined in response to question 1, sub-heading 3.

3. Are there any cases of infectious diseases being introduced into cattle populations by international AI?

To the best of my knowledge, the only proven transmission of disease was when imported semen was used in an Infectious Bovine Rhinotracheitis (IBR) free area of Switzerland and clinical IBR occurred in recipients and contacts. The donor bull was tested negative for IBR before collection and was subsequently found to have sero-converted post collection. This risk can be negated by requiring a post collection blood test, additional to the legally required pre-collection test. Many reputable companies carry out post collection tests routinely and ensure negative results before semen is released from quarantine.

I quote the paper "Hygienic aspects of storage and use of semen for artificial insemination" published in *Animal Reproduction Science* 62 (2000) 233-251 by M Thibier and B Guerin which states *This industry has been able to generate a very large international semen exchange without causing any major disease outbreak. This has been mainly due to the high standard of health surveillance at the semen collecting centres, based on sound scientific data and a high level of expertise.*

Since publication there are no reported incidents which negate this statement.

4. There have been cases in the past of genetic defects becoming disseminated throughout cattle breeds because of heavy use of a sire carrying a defective recessive gene (for example, bovine leukocyte adhesion deficiency). What is done to reduce these risks and how serious would they be for Jersey cattle?

The vast majority of “new” abnormalities which have spread significantly have been in the Holstein breed, partly because of the large numbers and also because the breed traces back to very few bulls.

Abnormalities are more likely to occur in closed relatively small populations and introduction of bloodlines which have been separate for a very long time is unlikely to introduce problems in the form of abnormal calves.

Risks are reduced by:

- Selecting sires for which there is no identified genetic defect by checking for abnormality and usually investigating the herd of origin
- Surveillance and reporting of abnormal calves produced, followed by thorough investigation to establish cause.
- If the cause is established as a genetic defect, measures are taken to ensure it is not perpetuated.

Specific abnormalities identified in Jerseys are rectal and vaginal constriction (RVC) and “limber leg”, both in the USA in the 1960s and 1970s.