National Report on loading of national cryo data

AUSTRIA

From the Content of Workpackage 7:

Entering passport data of cryo material
To create a national database containing all sample descriptions from the national genebank, passport data is entered on each sample from the national genebank into the national decentralized genebank database. After the actual samples of cryo genetic material and their location within the country have been identified, information on each such sample will be entered into the database. Data to be entered will be: tissue type, protocol used for its creation, date and location of production, location of storage, identification of the source animal, its species and breed. Where available more data can be collected. The user interface developed allows the same strategy of data collection for all tissue types and all species, which greatly simplifies operations. Furthermore, being a mult-user database, different users can enter genebank data over the internet if they are responsible for different genebank locations within the country.

The amount of work to be done is a function of the size of the national genebank. Most partners of this workpackage are starting on setting up a formal national register. Thus, the amount of samples is not that great.

In Austria data entry into the national Cryo WEB data base started with the uploading of donor data from the Austrian Cattle Archive. In the Archive currently more than 1600 semen samples from test bulls in commercial AI centers are stored. From all donors the following data are available from the central national database:

- Life number donor
- Name donor
- Birth date donor
- Breed donor
- Life number sire
- Name sire
- Birth date sire
- Breed sire
- Life number dam
- Name dam
- Birth date dam
- Breed dam

The data from the local database were compared to the central national RDV-database to clean the old data and life numbers. The resulting file contained all life numbers from the local database and all available information from the central database. Differences had to be cleaned by hand. These data were loaded by Zhivko Duchev into Cryo WEB from an excel file with specially written programs.
Animal data from other species and all sample data must be entered by hand.
The passport data of the samples - identification of donor on the straw, breed, storage location(s) and number of stored units are registered in a local database at the Institute of Organic Farming and Farm Animal Biodiversity. As the gene bank goes back to 1997 most of the old samples of sheep and goat semen are not labelled following the current life number system. Again the data have to be cleaned by hand by comparing the central database to the old semen collection protocols before they can be entered into Cryo WEB..

Animal life number system according to EU-regulations:
Cattle – Country code in front (AT for Austria, DE for Germany, IT for Italy…) followed by up to 12 numbers. Austria has 9 numbers in groups of 3 divided by dots = 11
Example: AT 123.456.789
DE 09 123456789
The same system is used in Austria for goats and sheep but differs between European countries.

Pigs: Individual numbering is used only for pedigree breeding and commercial crossbreeding stock, fatteners get on farm numbering (compulsory).
Horses: Life number system is changing because of upcoming use of microchips:
Number of chip = life number
The „classical“ life number systems are still in use.

Sample numbering:
Semen, oocytes and embryos: According to EU-regulation the following information has to be on the straw:

- Number of the AI-Center
- IBR-status (only in cattle, IBR neg. or IBR pos.)
- Breed (in full writing or in code)
- Life number of donor
- Charge number (production date is accepted)

Further optional information

- Name of animal
- Number in AI-Station
- Species

Austrian Cryo WEB registration policies:
Organisation
All donating organisations are registered in the database and will get access to the data.

Animal registration
The name of the animal and any additional information like percentage of crossbreeding is entered as comment. Until 2000 it was customary to “nationalize” the life numbers of imported animals. Today the animals are registered in the central databases under their original life numbers but on the old straws the Austrian life number is printed. Therefore the ID number of the donor may be different from the ID number on the straw.
Example:
DE_09_32038681 Rest ET = AT_109.100.399 Rest ET
In that case the Austrian life number is entered together with the name of the animal as comment in the input form.
A scan of the pedigree and of the DNA-typing of the animal – if available - is uploaded.
Pictures of the donor and coordinates of the breeders address currently are entered only for donors of endangered breeds.

Sample numbering in Cryo-web:
Semen, oocytes and embryos
The sample number has to contain the life number of the donor at the time of sampling

If the production date for old samples is unknown the 1st January of the year the sample was entered into the national cryoreserve is the production date.
For old samples the following comment is entered:
Sample identification on the straw may be formatted differently!

Semen, oocytes and embryos: Numbering according to EU-regulations.
A fixed format for each species for copy and paste to enter the numbers more quickly is used.
Examples:
AT_001.281.434_Nicem_Tiroler_Grauvieh (old sample ID)
AT-SE_2b_IBR_neg._Orig.Pinzgauer_AT_123.456.789_LODER_Rind_120_2007-10-15
AT-SE_2b_Waldschaf_AT_321.654.987_GALLUS_Schaf_359_2008-09-12

Semen not meeting the EU-standards and other material can be marked according to national standards

Somatic cells and isolated DNA
Very small vessels are used (0,2 ml PCR vessels) for DNA – no room for much information on vessel!
Numbering system of the Austrian Gene Bank:
7 alphanumeric fields – 1 letter indicating the species, space, 5 numbers from 00001 to 99999 on the vessel, all further information is contained in the animal sector of Cryo-web.

Examples

R 00257 (cattle)	*R_00257*
O 00005 (sheep)	*O_00005*
S 00577 (pig)	*S_00577*
C 01571 (goat)	*C_01571*
H 00001 (horse)	*H_00001*

Protocols
For old samples (cattle semen, cattle embryos) containing extenders with egg yolk and for tissue samples only the thawing protocol is added.
For new semen samples the freezing and thawing protocol according to species complete with the used extender(s) is added.
For DNA samples the isolation protocol containing the kind of reagent kit and the isolation method is added.

Status of samples
The semen samples of the Cattle Achive are registered as “owned” or “locked for 15 years” according to the agreement between the Austrian Association for Rare Endangered Breeds (ÖNGENE) and the AI-centers.
All other samples from the Austrian Gene Bank are divided into an “owned” and a “core” part. The owned part of the sample may be used for conservation breeding and/or scientific purposes as the owner of the gene bank and the organisation in charge of the breed decide.

Linking of breeds for upload of conservation data into EFABIS
Only breeds with an existing breeding population in Austria are linked to EFABIS. Imported breeds present in Austria only as semen for commercial crossbreeding are not displayed in EFABIS.

Current status of data entry
With 30th June 2009 the data base contains
3931 animals – cattle and sheep
709 samples – semen, DNA and blood

A national training workshop for the use of Cryo WEB will be held late in 2009 at the institute with all involved stakeholders (AI centers and breeders organisations).

Compiled by Beate Berger, National Coordinator Austria