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Guidelines for the Identification of Clones in Pedigree Records and in the database

Purpose

As of 2023, there exists no standardized European policy regarding the tracing of clones within animal pedigrees. This guideline aims to establish best practices for identifying clones in animal ancestry records.

Background

In 2008, the WHFF (World Holstein Friesian Federation) published guidelines during their meeting in Killarney, Ireland. These guidelines were designed to address the issue of clone identification in animal pedigrees.

In Europe, a clone cannot legally be a living farm animal; they are only permitted for research purposes. Clones, if present, typically appear on the sire side of pedigrees. However, in cases where countries use only the abbreviated name of the bull, the presence of clones in the ancestral lineage remains unknown.

Unregistered clones cannot be traced in pedigree records.

ETN – Embryo Transfer with Nuclear transfer, and

ETS – Embryo Transfer with embryo Splitting clones

ETA – Embryonic cloning – This is the only code used by Holstein Canada (Embryo Transfer Adult Clone)

These codes are commonly used to denote clones, although this practice lacks standardization across the EHRC (European Holstein and Red Holstein Confederation) Membership.

EU position

In 2013, the EU introduced a directive proposing the provisional prohibition of cloning animals and marketing animal clones. The directive allowed for the use of reproductive materials, such as semen from clones, and research on clones. However, this directive was withdrawn in 2020.

According to Council Directive 98/58/EC on the protection of animals kept for farming purposes, Member States are required to act at national level to avoid unnecessary pain, suffering or injury in the context of raising farm animals and mentions that such obligation also applies in the use of reproduction techniques. Therefore, any cloning techniques that would lead to such pain or suffering would not be in line with this Directive.

Until specific legislation governing food from animal clones is enacted, such food is subject to Novel Food regulations. Consequently, it must be appropriately labelled for the final consumer in accordance with EU legislation. Animal products from the offspring of cloned animals do not fall under the scope of the Novel Food directive.

Under EU legislation, Herd Books cannot reject the entry of clones. However, the interpretation of this provision varies among EU member countries.

Recommendations:

1. ****Include ETN, ETS, ETA on Certificates****: It is recommended that ETN, ETS or ETA abbreviation be included on certificates, preferably along with genetic trait information.

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2. ****Disclosure of Clones in Ancestry****: When clones are present in the ancestral lineage of a registered animal, they should be explicitly disclosed on pedigree documents.
3. ~~****Generation Indication****~~: ~~Pedigree documents should include information about the generation in which the clone ancestor appears, alongside the ETN, ETS.~~
3. ****Separate Classification for Registered Clones****: Clones may be registered separately in a different sub-class, distinct from the main section of the herd book, to facilitate easy identification and traceability.
4. ****Herd Book Responsibility ****: In case of registration of a clone or germinal products of a clone, the Herd Book participant is obliged to report that it concerns the registration of a clone. When importing cloned animals or germinal products of clones the Herd Book participant has the responsibility to check that the coding of the clone or ancestry of the clone is reported correctly on the official documents of the Herd Book in the country of origin.

The registration will be done according to the international standards of the WHFF (World Holstein Friesian Federation):

- ETA in case of Somatic Cloning
- ETN in case of Embryonic Cloning"

This conflicts with recommendation 1. It doesn't seem that anyone uses ETS ? Is the definition of ETA as used by Canada the same as used by the Netherlands and other countries?