



WHFF 5209 EHRC Emails about Clones

Background

In Spring 2023 a survey was taken of the EHRC membership, to understand whether Member Herd Books were following a unified approach when indicating if clones are in the back pedigree of registered animals.

Jos Buiting emailed the European Commission asking whether there were any EU regulations around the use of Clones. They replied stating that there isn't a regulation currently for regulating clones. It is up to the member state itself.

At the 80th EHRC Committee meeting in October 2023, there was a discussion about how Herd Books should show Clones in the back pedigree.

A new Guideline was proposed, and after reading the WHFF Cloning Guidelines, it was decided to bring this discussion to the WHFF Council.

Following this discussion, the following emails were received.

27/10/23 email to Linda Markle of Holstein Canada asking whether they still used ETA to indicate a clone. Linda replied that 'for cloned resulting animals they are registered with code ETA.'

30/10/23 email the EHRC Committee asking for comments on the following in the Clone Guidelines:

There are conflicts in the EHRC Guidelines between the definitions of ETA, ETS and ETN.

	ETN	ETS	ETA
Background section	Embryo Transfer with Nuclear transfer	Embryo Transfer with embryo Splitting clones	Embryonic cloning
Recommendation Section no 4	Embryonic Cloning		Somatic Cloning

31/10/23 email from Stephan Schneider

in Germany we don't use ETA at all.

The rules for labeling clones (ETN) and their offspring (ETC) are as follows:

Since 1st December 2020 offspring's of cloned animals will be labelled if they can be traced back to a cloned animal in one of the three previous generations (parents, grandparents, great-grandparents) In principle, these animals are able to be registered in herd books and may be used for breeding. However, it has been decided that these animals will be labeled with "ETC" for more transparency for the breeders. This means that when foreign animals are registered in the German herd book, a corresponding certificate of freedom from cloning must be provided. If a foreign bull or a calf born from an imported embryo is not accompanied by a certificate of freedom from cloning, the animal will be marked with "ETC".

No matter what, i would prefer a unified European solution. I believe the approach used in Germany is only used in Hungary as well. Right Lazlo?



31/10/23 Email from Jos Buiting

Given the fact that Canada is using ETA and US is using ETN, we should at least keep these 2 abbreviations.

Considering the 3 abbreviations mentioned:

ETS: for Embryo Splitting

In my opinion we don't need ETS as an abbreviation for Embryo Splitting.

Because as it says it is about splitting an embryo (in a laboratory) in 2 parts.

Splitting in more than 2 parts is hardly possible and doesn't give good results in practice.

The process of splitting an embryo is comparable with the arise of identical twins; and therefor not considered as a Cloning Technique.

ETN = Embryo Transfer with Nucleus cloning (so Embryonic Cloning)

This technique is used to split an embryo (i.e. in 32-cel stadium) in 32 different cells.

One or two cells will be used for DNA testing, to test the genetic quality and sexe of the embryo. The other 30 will be frozen until the results of DNA testing are known.

If quality of the embryo is good: the cell nucleus (ETN) of the other 30 cells, will be separated and implanted in a 30 nucleated (empty) egg cells and all 30 can develop towards a normal embryo.

By doing this you create much more embryo's (and therefor pregnancies and offspring) of your top animals.

ETA = SomAtic Cloning

Somatic cloning does not start with an embryo, but it starts with cells (DNA) of a live animal.

Like in ETN ... in ETA the cell nucleus is taken out of the original cell and implanted in an empty egg cell and can develop towards a normal embryo.

As you can see: the technique of ETN and ETA is very comparable, which is probably the reason why US and Canada both use one abbreviation.

Nevertheless, it would be good to ask both to follow the WHFF recommendation and use the correct abbreviation, since the social acceptance of both techniques can be very different. And if that is the case in future, we might need the correct coding for traceability reasons.

My proposal is to skip ETS as an abbreviation and use the WHFF recommendation as already published on the WHFF-website as the basis document with additional recommendations, based on the EHRC-discussion we had recently.