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# Roger's Record News: Know Your Donor Dam Procedures-ET Rules

## Is your donor dam DNA profiled or blood typed?

The blood typing, or now DNA profiling, of donor dams and service sires of ET flushes has always been one of the

ET rules. You may be one of several breeders who have questioned why this is necessary. The basic answer is quite simple - It's the Rule. The reasons for the rules are somewhat more complicated. The crux of the rule is to allow your association to carry out its responsibilities of maintaining the integrity of the ancestry of the breed as stated in the Bylaws and Rules of Registration. In addition, the control of genetic abnormalities through donor dams via the sale of embryos and future sires will have a large impact on the future genetics of the breed. It is imperative these diseases are not spread unknowingly due to misidentification.

### Original Rule

Back in the early 80's when Embryo Transfer was new technology, the initial rules included the following statement: "Donor Dam and Sire(s) used must be blood typed and are the responsibility of the applicant registering the embryos." This basic rule has not changed.

During the past 25 years, your association has recorded some 59,000 embryos. Approximately 70% of those embryos have been stored and mainly frozen. In recent years, your association has discovered several instances where blood typing or DNA profiling (parentage verification) of either ET animals or offspring of dams who were ET's

has resulted in the detection of misidentification of the donor dam or her offspring. So how can this happen? There are many ways and most are honest mistakes which occurred somewhere in the recording of the Embryo Transfer process. Listed below are a few possibilities:

1. The identity of two calves were switched at the time of birth or at registration. Either both are ET calves or one ET and one natural calf.
2. At the time of implanting the embryos, two embryos were inadvertently switched into the opposite recipient cows.
3. An embryo was implanted, but the recipient had access to a yard bull or neighbor's bull, knowingly or by accident.
4. In the early years, a few breeders used semen from more than one bull requiring that all offspring be blood typed in addition to the donor dam and service sires used.
5. Transposing of identification numbers, embryo ID, or parent registration number.
6. Pulling the wrong straw when implanting the embryo in the recipient.
7. Recording the donor by barn name only and listing the wrong dam ID.

### Procedures

Original procedures were fairly lenient in that when an application for an ET calf was received to be registered and the donor dam had not been blood typed, a kit was sent to the owner requesting a blood sample be sent to the approved laboratory. Some donors were then blood typed, some were never sent to the lab, and some donor dams were gone out of the herd. The responsibility to complete this request was left to the

breeder. The calf was registered.

As more and more ET offspring from flushes collected years ago began to be registered, it became apparent there was an increase in parentage verification problems. And since several of the flushes of the donor dams were done many years ago, the dam was no longer available (alive).

### Rule Revision 1

Thus, the first rule revision passed in January 2003 was as follows: "Flushes recorded within 90 days of the flush would carry the original \$10/flush fee. The fee for flushes recorded after 90 days would be \$50." The intent of this rule was to have the paperwork recorded early with the association limiting the loss of information and earlier blood typing (DNA) of the donor if not already completed.

### Rule Revision 2

To further eliminate the percentage of verification problems of ET animals, in July 2004 the following rule became effective: "Before ET offspring may be registered, the Donor Dam must be blood typed (DNA). The registration of offspring will be held until blood typing (DNA) is complete." Since the possibility that some donor dams would no longer be alive a provision was included with two options.

- 1) The breeder may choose to blood type (DNA) up to 3-6 litter mates to reconstruct the blood typing of the donor dam, OR
- 2) Submit a letter of appeal to the Board including a \$100 appeal fee to forego the reconstruction option, due to a limited number of offspring from this particular dam. Normally all resulting ET offspring of that donor would be blood typed (DNA) (1-5 offspring).

### Rule Revision 3

In July 2006, the Board took further action to be effective 9-1-2006: "The blood typing (DNA) requirement of the donor dam must be completed prior to recording the transfer of embryos to a new owner with the association." Previously, the requirement only applied at the time of registration of the resulting ET offspring. This is to assure the reliability of the embryo's ancestry to the buyer of any embryos.

## The best plan - blood type (DNA) all Donor Dams before or at the time of flushing.

### ET Rules Summary

1. Donor Dam must be blood typed (DNA). Preferably done prior to flushing.
2. Flush recorded within 90 days (\$10 fee). After 90 days (\$50 fee).
3. Blood typing (DNA) must be completed prior to registering of ET offspring.
4. Blood typing (DNA) requirement completed prior to the transfer (sale) of any embryo.

NOTE: If Donor dam no longer available:  
1) Reconstruct donor dam blood type (DNA). (Blood type 6 offspring).  
2) If limited offspring available, appeal to the Board (\$100 fee and blood typing of available offspring).