

DNA parentage



Need: Difficult to manage flock with different mating groups

Aim: To know the pedigree of each lamb without the need for artificial insemination (AI), single-sire mating groups and/or recording at lambing time.

Description: A service that provides animal parentage information using DNA collected as a tissue sample. Particularly useful for flocks that mate ewes in multi-sire groups and/or that lamb outside (in fields or on extensive hill grazing).

How to Implement: When starting this process, all animals in the flock need to be sampled using a tissue sampler supplied by several different companies (either using a stand-alone sample tube or one that is connected to ear-tag). Each sample must be labelled with the animal's unique identification number.

Each year after that, only new animals joining the flock need to be sampled, for example newly purchased rams or replacement females (if not home-bred) and all new lambs born. Once all samples have been collected, they are sent to a laboratory for analysis.

Results provided can range from simply the sire and dam of each animal to information on specific genes, depending on which service provider is used.

Country:

UK



Production System (dairy or/and meat sheep/goat):

Meat sheep

Category of Animal (ewe, goat, replacement, lamb, kid):

All

Source of Information:

Attachment/Links:

[Sm@RT Digifarm testimony - UK - DNA tissue collection \(youtube.com\)](#)

[Sm@RT UK Innovative Farmer testimony - Southfield farm \(DNA Parentage\) \(youtube.com\)](#)



Expected Benefits:

- Sire and Dam information for each lamb.
- Removes the need for artificial insemination (AI), single-sire mating groups and/or recording at lambing time.
- Allows farmers to assess ewe rearing performance (e.g. lamb growth and survival) and ram mating success rate (number of lambs sired).
- Allows extensively managed flocks to be part of genetic breeding programmes.
- Potential for additional information relating to specific genes or genomic breeding values.

Costs and Challenges:

- Costly to sample all animals initially.
- Correct tissue sampling devices must be used.
- All animals need to be individually identified (lambs need to be tagged when tissue sample is collected).

- Set up costs ~ 1 – 20 Euro (individual costs)
- Subscription required: No
- Ease of use? Scale 1 (Complicated) – 10 (Simple)



- Value for money (for this type of benchmark farm)? Yes
- Recommend this tool/technology for use on other types of farm? Yes

This tech works for me because it means I don't have to catch and tag lambs at birth, but I can still find out who the mother and father is.

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It allows us to mate ewes using larger multi-sire mating groups, instead of having to use single-sire mating.

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It would take 18 years for a peak adoption rate of 16%.

