

## Introduction

### RAPID GENETIC PROGRESS IN YOUR FLOCK REQUIRES ACCURATE RECORDING OF PEDIGREES AND PERFORMANCE TRAITS.

Shepherd<sup>®</sup> uses DNA to generate pedigree and family information. Traditional parentage recording is not required at mating or lambing. Instead, a Pfizer Animal Genetics DNA sample is needed from each sire, dam and lamb along with ewe scanning data, and mob records. Pfizer Animal Genetics DNA profiling and analytical software generates the family information and can interface with Pfizer Animal Genetics breeding value software to produce breeding values and genetic indexes if required.



**SHEPHERD<sup>®</sup>**: avoids data errors from unplanned matings and manual mis-recording on lambing beats.

## Features and Benefits of Shepherd<sup>®</sup>

KEY FEATURES	KEY BENEFITS
Can multi-sire mate	<ul style="list-style-type: none"> <li>• Allows better utilisation of autumn feed</li> <li>• More ewes pregnant to a stud ram in the first cycle and less ewes pregnant to a back-up ram</li> </ul>
Manual pedigree recording not required	<ul style="list-style-type: none"> <li>• Reduces labour costs and the reliance on stud lambing shepherds</li> <li>• Avoids data errors from unplanned matings and manual mis-recording on lambing beats</li> </ul>
Required field recording can be done by top commercial farmer	<ul style="list-style-type: none"> <li>• Potential for increased lamb survival by running ewes with less human interference</li> <li>• Provides scalable platform to significantly increase stud operation size</li> </ul>
Stud breeding can be conducted under conditions similar to a commercial lamb production farming operation	<ul style="list-style-type: none"> <li>• Land can be used more efficiently as breeding operations can be managed on commercial land and flat land used for fattening</li> <li>• Stud stock and records can be viewed as totally relevant to commercial conditions</li> </ul>
Can incorporate Pfizer Animal Genetics DNA-marker tests	<ul style="list-style-type: none"> <li>• Increased genetic gain</li> </ul>

## How Shepherd<sup>®</sup> Works

1. Blood samples containing DNA are collected from all animals using Pfizer Animal Genetics DNA Test Kits. Sire samples are collected pre-mating, and samples from pregnant ewes at scanning. Lamb samples are collected at docking.
2. Breeders need to continue to accurately record sire and ewe mating groups.
3. At pregnancy scanning the number of lambs and foetal age is recorded for each ewe.
4. Prior to lambing, ewes are set-stocked into lambing paddocks where they remain with their lambs until tailing. At this time, the breeder tags the lambs, collects individual blood samples using Pfizer Animal Genetics DNA Test Kits and records which ewes were in the lambing paddock with each group of lambs. The blood samples are then sent to Pfizer Animal Genetics for analysis.
5. Pfizer Animal Genetics DNA testing does the rest. Shepherd<sup>®</sup> uses the DNA to genetically match lambs to sire and dam.



**DNA-MARKERS** can help select animals with a specific characteristic such as increased meat yield e.g. MyoMAX<sup>®</sup>.

## Questions and Answers

- Q: Is the accuracy of DNA parentage profiling known?
- A: With manual recording breeders can only record what they see and it is possible to record a pedigree which is completely incorrect e.g. if an unscheduled mating is not observed or a marking harness fails. DNA works very differently. The accuracy of pedigree and breeding values is known and can be managed to maximise genetic progress. DNA analysis narrows down a lamb's pedigree by ruling out unrelated parents to identify the single correct pedigree or small family of possible parents with related DNA profiles e.g. a twin sister.
- Q: Can I take my own blood samples?
- A: Yes, all that is required is a drop of blood for each animal. Pfizer Animal Genetics DNA Test Kits keep the blood stable at room temperature allowing samples to be sent through the post.
- Q: Can I use Pfizer Animal Genetics DNA Test Kits to analyse for predictive DNA-markers?
- A: Yes, there are a growing number of Pfizer Animal Genetics DNA-markers which can help select animals with a specific characteristic e.g. increased meat yield, disease resistance. In many cases these can be analysed from the samples collected for Shepherd<sup>®</sup>.