

Introduction: Sheep Breeding Using Inverdale®

The number of lambs weaned per ewe wintered is a key driver of on-farm profitability. Inverdale® is a naturally occurring change in the genetic code of the sheep X chromosome that boosts pregnancy scanning percentage and the potential number of lambs weaned. Ovita has developed a DNA test for animals with the Inverdale® gene that allows individual sheep to be screened for the presence of the Inverdale® gene. Results of testing can be used to generate an integrated breeding solution that takes into account feed availability and the management of Inverdale® and non-Inverdale stock.

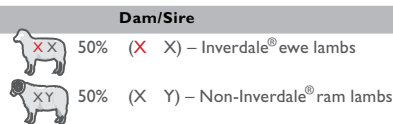


How Inverdale™ Works

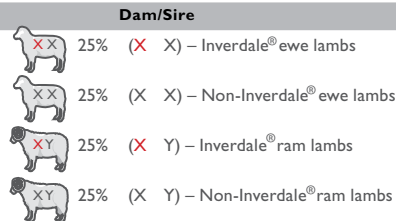
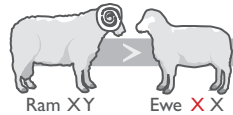
A ewe carrying a single copy of the Inverdale® gene has a higher scanning rate for farmers than non-Inverdale® ewes.

The one-off introduction of an Inverdale® ram team into a sheep flock boosts scanning rates by about 40% in one generation. For example ewes scanning at 150% that are mated to an Inverdale® ram will have Inverdale® daughters that scan around 190%. Inverdale® ewes have increased fertility for life.

Inheritance of Inverdale® Gene carried by ram only:

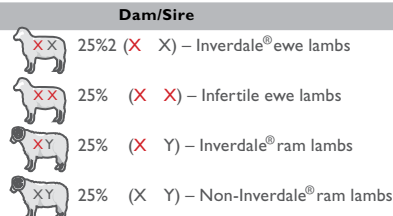


Inheritance of Inverdale® Gene carried by ewe only:



Inverdale® ewes are mated to a non-Inverdale® ram. The Inverdale® gene and high fertility is maintained in 50% of the progeny.

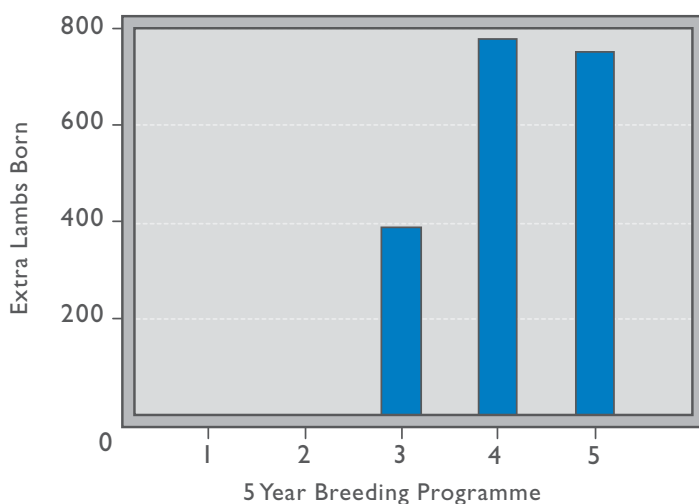
Inheritance of Inverdale® Gene carried by both ram and ewe:



Mating Inverdale® rams to Inverdale® ewes should be avoided as some progeny may be infertile.

Cost-Benefit Analysis of Inverdale™

An example of the benefits of a “one-off” purchase of an Inverdale® ram team in a 4,000 ewe commercial hill country flock is outlined in the following graph.



- Notes:**
1. If lambs valued at \$60 then increased additional revenue gained through using Inverdale® breeding stock is \$109,200.
 2. Managed use of additional Inverdale® rams or use of Inverdale® ewe replacements would maintain or increase lambing levels past year 4.

Further Information

For more information on Inverdale® and how to develop an Inverdale® management plan to benefit your sheep, please contact an Ovita licensed Inverdale® breeder.

Questions and Answers

- Q:** Can the fertility increase gained by using Inverdale® stock be managed?
- A:** Yes. The fertility level of Inverdale® ewes can be controlled by managing ewe feed supply which in many cases has the added benefit of allowing farmers to increase lamb stocking rates to suit their management systems or feed availability.
- Q:** What sheep breeds can Inverdale® be bred into?
- A:** The Inverdale® gene is present in a variety of breeds and can be introduced to any breed or line however this may not be desirable in some cases e.g. merino.
- Q:** Can I incorporate Inverdale® stock into my current breeding programme?
- A:** Yes. Using Inverdale® carrying ewes and rams can maximise flock fertility but requires a tailored on-farm breeding programme to avoid producing double copy carrying ewes.

