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The *MatchMaker* makes a mark

For most sheep breeders, the annual ritual of working out 'who is whose' is a vital yet laborious and costly exercise.

Yet technology can now step in and automatically match lambs to their mums, in the paddock, and provide full pedigree information at a click.

For many breeders, the advent of *Pedigree MatchMaker* technology is a blessing: costs are reduced, accuracy is high and the information collected can be used in additional ways.

For NSW South west slopes based Merino breeder, Rick Baldwin, it was a clear and simple progression. "We started using electronic (RFID) ear tags four years ago, and quickly moved on to the *MatchMaker*."

"We're always looking to increase the scale of the enterprise and reducing labour costs; this tool allows us to automatically collect information on ewes and their lambs, out in the paddock, every day."



Electronic Tags are revolutionising the quantity and quality of data without increasing labour requirements

The system records the identity of ewes and lambs via their e-tags in time-order as they pass a reader in the paddock, then links lambs and ewes according to how often a particular lamb follows a particular ewe. The system was developed and refined by Industry & Investment NSW (I&I NSW) and Sheep CRC researchers, as well as Mark Mortimer of the CentrePlus Stud, Tullamore.

And given the number of lambs around Bundilla year-in, year-out, keeping track of them can be an issue. The reproductive rate of near 140% exceeds that of most cross-bred ewe flocks.

"Setting up and using the reader is no hassle at all, for us or the sheep," Rick said.

"Straight after lambing finishes, we set some gates up around a dam or trough with a five metre gap, and over a two week period we slowly close it up so that in the end there's just a short race.

“Next to this is an ear-tag reading unit, a solar panel and a battery, and the sheep move through the race as if it was always there.”



Standard 'race and reader' set up on 'Bundilla'

Rick Baldwin is now using three *MatchMaker* units on all 2nd studs and flock ewes - a total of 2,500 ewes.

“There are three basic flocks in the enterprise, with staggered lambing, which allows us to use the 3 units on a lot of sheep.

“We’re still doing the traditional ‘mothering-up’ of 1500 Stud ewes through the yards - so we get to handle lambs and know how each sire has thrown, but in future the Matchmaker gives us the scope to more efficiently ‘mother-up’ the whole year’s drop.”



Ewes and lambs walk through the MatchMaker race like it has always been there

Rick Baldwin says the system is practical and works in all conditions.

"You'd wonder if, in a wet period when sheep don't water as much, there might be a few issues.

"But, we haven't had any problems – the ewes take their lambs through the race and past the reader to go to water even when its wet, and the fact that readings are taken over a six week period means the ewes and lambs are 'read' numerous times.

"We've recorded a 96% accuracy in the information collected."

The collected data is downloaded on the home computer and then forwarded to Advanced Breeding Services for processing.

Many stud Merino flocks have sire-only records. Adding the maternal pedigree provides a more precise comparison between animals across the years and genetic linkages in across-flock evaluation to improve the accuracy of breeding values.

Other options for recording pedigrees are time consuming and expensive; manual mothering up or tagging when each animal is born on a daily basis can cost towards \$10/lamb, while the full high-tech DNA matching which can cost \$20-\$30+/lamb.

The *Pedigree MatchMaker* costs for a flock of 400 ewes over five years is \$3-\$4 a lamb.

"The up-front cost of the equipment is significant, but it will come down with time, and you've got to think of the paybacks. In time, it'll be an enormous asset.

"It's invaluable for building our knowledge of the flock and its genetics."

Former I&I NSW researcher, Dr Kevin Atkins, says that the inclusion of maternal pedigree data can increase the rate of genetic gain by 17%.

Rick Baldwin adds, "And we'll increase breeding value accuracy for the range of key productivity traits of growth, micron, and clean fleece weight, and we'll build better trait indexes for number of lambs weaned.

"It'll be a very useful drought strategy too – we can easily identify the first to go, which will be the dry's, then the single bearing ewes."

The 'Bundilla' flock, near Young, consists of 4,000 ewes total and sells 400 rams per year.

Breeding objectives include:

- Adult fibre diameter 19 micron
- Adult ewe 40+ N/kt strength
- High clean fleece weight and staple length.
- Non-mulesed and non-drenched
- High growth rates with major focus on improved muscling.
- High fertility levels and rearing success (140% NLW) – high selection pressure on females
- High emphasis on confirmation for ease of lambing and wool structure for high rainfall (800mm annual rainfall).

For further information, see: www.sheepcrc.org.au/

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