

The Poena progeny project

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The sound of bleating fills the air on the farm Strydfontein of John Stretton, as a flock of ewes with twin lambs is chased out of a small camp, having been photographed for the Merino Focus. Ewes with orange, blue or black ear tags call loudly while white lambs scurry through the grass to find their mothers. The ewes' ear tags are significant as they indicate the sire to which each ewe was mated – the focus of an interesting study currently being conducted.

The ewes with the blue tags were mated to *Poena*, a ram that was born in 1984 and was one of the top sires of his time. The orange and black tags indicate ewes mated to the sires *Sneller* and *Jood* respectively, two rams currently ranked as the second and third best sires on the CMW National Sire Ranking. By making a comparison based on the progeny of these rams, the study aims to quantify the effect of selection based on Best Linear Unbiased Prediction (BLUP) breeding values, and how it affected the genetic improvement of the National Merino herd in South Africa.

John explains how the project came about. He recalls the 1980's, when the Merino progeny testing programme was first up and running. Various breeders who were doing performance testing at the time were invited to send rams into the progeny test so that they could make comparisons.

The Stormberg Group Breeding Scheme, of which John was a member at that time, had a ram *Poena*, which they sent in for this purpose. He was used in the Stormberg group for 3 years, producing very good offspring. He was also a gold merit ram.

After the Stormberg group had used *Poena* for a number of years, Dr Johan Steyn requested his transfer to the AI station at Ramsem. A lot of his semen was sold – he was widely used among various Merino flocks around the country. As the Stormberg group didn't need him for breeding anymore, he stayed at the Ramsem station and eventually died there.

John had approximately 200 straws of *Poena's* semen stored at Ramsem which he intended using after a number of years. But when the time came to use this semen, he didn't see any point as there were then better rams available. So the frozen semen remained in storage. Each year, when the time came for paying the account for the storage of the semen, he would contemplate what to do and then decide to store it for just another year...

At the Bredasdorp Classic in 2012, John discussed with Dr Buks Olivier his idea of doing a test to compare *Poena* with other rams. Buks was very interested, but insisted it be done "properly" i.e. not only in John's stud, but in another stud as well; and that they compare *Poena* with top performing rams currently in the industry.

Willem Olivier from Grootfontein Agricultural Development Institute took the study on as project leader, and Geoff Kingwill volunteered ewes from his flock on the farm Grand View in the Murraysburg district.

Both farmers selected 140 of their stud ewes for the purpose of the



Poena



Jood



Sneller at age 15 months



Willem Olivier and John Stretton with some of the project ewes and lambs

project and these ewes were randomly divided into three groups. Two groups of fifty ewes each were laparoscopically inseminated with fresh semen of *Sneller* and *Jood*, while the third group of 40 ewes was inseminated with frozen semen from *Poena*. This occurred at approximately the same time on both farms, around April and May 2012. Normal health and management practices have been followed at each farm since mating, and will continue until the final classing of the progeny.

At the time of visiting Strydfontein, the lambs were approximately one month old. Of *Poena*'s progeny in John's flock, there were thirty lambs born alive and tagged; and forty in Geoff's. The other two rams both gave a lot of lambs as is usually the case with fresh semen – approximately 50 or 60 lambs each in both flocks.



In January 2013 the lambs will be weighed for a weaning weight comparison. At fourteen months of age they will be shorn and all the performance tests will be done in order to make accurate comparisons to meet the objectives of the project. The objectives are to:

- Compare body weights and growth rates of the progeny of the different sires at different ages
- Compare wool characteristics of the progeny of the different sires
- Subjectively compare wool and conformation traits of the progeny of the different sires
- Estimate BLUP breeding values for the economically important traits
- Compare sire summaries calculated from the estimated breeding values (EBV) for the economically important traits

The table below summarises the estimated breeding values (EBV) obtained from the latest BLUP analysis (28/04/2012) for the sires:

Name (ID Number)	Body weight (kg)	Clean fleece weight (kg)	Fibre diameter (µm)	Staple length (mm)	Total weight of lamb weaned (kg)	Relative economic value (R)
Poena (2150-28-3)	-3.78	-0.08	0.65	-0.00	-1.79	-18.60
Sneller (801-08-7114)	1.69	0.232	-1.90	5.95	2.97	39.49
Jood (2323-08-0931)	7.06	0.106	-0.96	11.62	1.64	39.21

By comparison, *Poena*'s estimated breeding values (EBV) published in the Ramsem journal of 1989 were:

Name (ID Number)	Body weight (kg)	Clean fleece weight (kg)	Fibre diameter (µm)	Staple length (mm)	Total weight of lamb weaned (kg)	Relative economic value (R)
Poena 1989 (2150-28-3)	7.04	0.39	0.28			33.70

It is apparent from the above figures that *Poena*'s estimated breeding values have changed significantly over time. While he was a top ranked ram in 1989, his figures now appear quite poor when ranked alongside current top rams.

Have his breeding values in fact changed over time according to BLUP's prediction? How accurately were his breeding values forecasted? What progress has been made with the Merino breed since the 1980s?

The month-old lambs at Strydfontein all looked very similar when they were photographed in October 2012. In answering these questions, what story will their orange, blue and black ear tags tell?

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