

## NEWSLETTER

ISSUE 1, AUGUST 2018

WELCOME to the inaugural Rocklyn Merino Stud newsletter. While seasonal conditions across the state are poor, wool and lamb markets are on all-time highs. We hope our readers have not been too severely impacted by the drought to capitalise on the current market situation. We have been lucky at Greenethorpe - our crops and pastures are hanging on; however, we don't have to travel far to see that it will be a tough year for some.

This year, Rocklyn Merino Stud turns 80! I haven't been around for quite that long but things have certainly changed in that time. Our Stud has moved from producing sheep with more development and a stronger micron to developing plainer bodied, dual purpose sheep with fine-medium wool that are better suited to our local market and environmental conditions. Our advantage is that we have done this through careful selections over time so have not compromised our heavy wool cutters in the process.

In 2018 we are embracing the exciting and progressive step of DNA sampling and genomic testing and we look forward to how this leading technology will fast-track our genetic progress.

Reports from two sire evaluations we are currently involved in have just been released and the results for Rocklyn are encouraging. Our sires are performing well above average against larger Studs and are trait leaders in several categories.

Our ram sale is fast approaching and I encourage interested buyers to contact me to discuss their breeding requirements and how Rocklyn can help them genetically advance their flocks.

- Ralph Diprose





Visit us at the SWS Merino Field Day!

TUESDAY 4<sup>TH</sup> SEPT HARDEN SHOWGROUND

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## 2018 RAM SALE THURS 13TH SEPT

- Seventy hogget Merinos and Poll Merinos
- Top genetics at affordable prices
- Inspections from 10am, sale at 1pm
- Held at 'Elon' 343 Barker's Road, Greenethorpe
- Lunch and refreshments provided

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#### **ADVANCING THE MERINO**

The following article, sourced from Mecardo, has featured in several other newsletters recently. We have decided to include it here again as it really reinforces our opinions and the Stud's breeding program objectives and sets the theme for this newsletter.

Rocklyn places emphasis on getting results for clients, in the paddock rather than the show ring. Our sale rams are no longer shedded so buyers are able to see how well they handle the highly variable, local environmental conditions.

Sires and sale rams are carefully selected to meet the needs of clients - whether it be to lift flock fertility and lambing/weaning percentages, improve early growth rates or wool cuts or get better prices at the sale yards.

The use of advanced breeding technology, extensive performance recording and benchmarking have always played an important role in Rocklyn's breeding program. We have great confidence that we will see some significant genetic gains over the next few years with the introduction of genomic testing this year.



A significant amount of data is collected and analysed as part of Rocklyn's breeding program. Data is submitted to Sheep Genetics to obtain ASBVs that further assist with breeding selections.

## IS THE MERINO STUD MODEL FIT FOR THE FUTURE?

Article by Robert Herrmann

Source: Mecardo. Visit www.mecardo.com.au

It's many years since stud breeders of jersey bulls, landrace pigs and rhode island red roosters presented their prized stock at the various capital city Royal Shows to assess breeding potential. Today, these industries rely on data and science to identify the best sires to breed for the growing commercial demand for milk, pork and chicken.

Performance recording has replaced show judging. There is still a role for the show ring, principally for the committed lovers of breeds to showcase their stock. However, the pragmatic farmer of today needs proof or at least confidence that the decisions around sire purchase align with the breeding objectives of their business.

This makes sense, it is not the pampered, prepared and perfumed animal in the show ring that matters; it is the progeny that must perform under commercial conditions that is important. Lipstick on the pig simply won't do now.

Pork and chicken producers quickly concluded that all commercial producers have similar objectives. Their aim is to breed stock that are healthy and resilient, produce as much meat/eggs as possible, and have efficient feed conversion.

In the pig industry, this led to central breeding sites where the latest technology is implemented to continually improve litter size, litter weaning weight, lean growth rate, feed efficiency, feet and leg soundness and teat number.

The breeding site conducts extensive progeny testing to enable confident prediction of outcome, and to establish if any problems with new strains are evident. This collective approach also aggregates necessary funding.

Admittedly the enhanced use of artificial insemination (AI) encourages focus on genetic improvement, and the shorter generational turnover of pigs and regular performance reports from the milk vat provide constant feedback on the breeding performance.

The dairy industry has even evolved. The Australian dairy cow now produces twice as much milk per day as its counterpart of twenty years ago, and along with increased pasture production real productivity increases have been achieved.

While progress in the Merino Stud industry is occurring, it is a long way off the pace of dairy, pork and chicken. Prime lambs are also seemingly moving quicker in identifying and using the sires and bloodlines that will provide assured genetic improvement

Genomics, estimated breeding values (EBVs) and Australian Sheep Breeding Values (ASBVs) all rely on performance recording and data analysis. It seems that in the Merino industry equal weight is given to "soft" or non-measured characteristics; that is things that are not directly related to financial returns. At public ram sales, the well-fed rams create an environment where all participants feel the need to fatten rams prior to sale so as not to look out of place, potentially masking other problems. This tends to diminish the focus on important productivity traits like fleece weight, micron, and reproductive capacity including lamb survival.

Merino studs are the largest influence on the commercial merino industry, providing most of the genetics. The large number and diverse quality of studs is causing a fragmented approach to overall industry improvement. Still, many Merino studs are purchasing sires based on subjective assessment. The industry has a legacy

of rams purchased as the "next impact sire" failing to perform and then disappearing when the progeny arrives.

Consideration needs to be made of constructing breeding collectives, where the objectives are clear and agreed, and the scale of the operation allows the appropriate funding to push genetic gain for the designated commercial aspects to be maximised.

Greater certainty of the breeding outcome will encourage more Al and embryo transfer use, and with a larger spread of the right "impact" sires, the industry overall will advance at a faster rate.

Can the Merino double production of fleece weight in the next twenty years? Can it lift by 50% lamb survival? Can it produce wether lambs of 20kg CWT at 6-month-old? These could be some of the challenges brought within reach if science and data become the holy grails of Merino breeding.

This article won't endear me to my many long-term friends and acquaintances in the merino stud industry, to give credit though they are some of the most committed and passionate sheep breeders you could meet, and there are innovators amongst the existing stud masters.

However, the industry has dramatically changed since the heady days of big merino sheep numbers, and by consequence big merino ram sales.

To make Merino Great Again, it's time we reviewed the method of supplying genetic improvement to the Merino industry. It is a different time; gone are the days when the show ring or the experienced eye was sufficient for selecting future sires. Ram breeding needs a science based approach to compete with the persistent challenges from cropping and prime lamb production for traditional Merino acres.

But most importantly the stud system needs to modernise if the Merino is to find the continuous improvement needed to prosper into the future. To compete with other farming alternatives, Merino sheep will need to embrace the science of genomics to generate the required improvement to retain the wool industries place in the rural environment.



Around 750 stud ewes are involved in Rocklyn's annual AI program.

### HOW IS ROCKLYN KEEPING FIT FOR THE FUTURE?

#### DATA RECORDING AND ANALYSIS

Rocklyn collects and analyses a significant amount of data for both its stud and commercial flock. The data collection process starts even before lambs are born with pregnancy scanning, then weaning weights and percentages, hogget body weights, fleece weighing, eye muscle depth/fat scanning and mid-side sampling to test wool characteristics. Along with this are visual classing assessments and other results such as wool clip reports. Electronic identification tags are used to streamline the process and Practical Systems Stockbook computer software is used to help manage and access the data. External assistance is obtained through Sally Martin Consulting, which adds quality assurance to the data.

#### **ASBVs**

Rocklyn's data is submitted to Sheep Genetics to obtain ASBVs to assist with breeding selections and allow buyers to objectively compare sale rams. Rocklyn has been with Sheep Genetics since it started in late 2005. Before that we were sending data to the Merino Validation Project.

#### SIRE EVALUATIONS

Rocklyn has been participating in sire evaluations since 2003 to benchmark its genetics. The latest results, from the MerinoLink Central Test Sire Evaluations at Jugiong (2016) and Yass (2017), are on pages 6-7.

#### ADVANCED BREEDING TECHNOLOGY

Since the mid 1980's, Rocklyn has incorporated Al into it's breeding program. Semen is sourced from leading sires across the country as well as high-performing Rocklyn sires. The Al program has allowed Rocklyn to make significant genetic gains in a short amount of time and allows us to offer top genetics to clients, at an affordable price.

#### **GENOMIC TESTING**

This year, Rocklyn is among the few studs adopting the latest genomic technology by participating in the DNA Stimulation Project. Rocklyn will DNA test all stud ewes to determine parentage, while 15K genomic tests will be conducted on all ram lambs, which will help to identify suitable sires at an earlier age. This testing will allow for better breeding selections and faster genetic gains to be made. More information on this project is on pages 4-5.

Rocklyn Merino Stud....Celebrating 80 years of adaptive breeding

## MerinoLink **DNA Stimulation Project**

As part of our continual improvement program and commitment to 'bring our best' to our clients, Rocklyn Merino Stud is participating in the nationwide MerinoLink DNA Stimulation Project and investing in leading genomic technology.

#### ABOUT THE PROJECT

MerinoLink has partnered with the University of New England (UNE) for the DNA Stimulation Project, which is working with 26 Merino ram breeders and up to 200 commercial Merino breeders from across Australia to help them strategically and cost effectively use genetic and genomic tools that are currently available.

The project, jointly funded by MLA Donor Company and the participating breeders, aims to double the rate of genetic gain amongst participating stud and commercial flocks by 2022.

As part of the project, Rocklyn will parentage test all stud ewes to obtain full pedigrees and conduct full (15K) genomic tests on all ram lambs. The genomic test gives information about 15,000 genetic markers and can be used to predict genetic merit. Genomic tests allow animals to be more accurately selected and mated at younger ages, resulting in greater genetic gains.



Genomic testing of all ram lambs has the potential to increase genetic gain by up to 23%, where rams can be mated as lambs (Granleese, 2018).

Selected commercial clients will also be invited to conduct a Genomic Flock Profile to help them best target rams that will capitalise on the strengths of their flock and address any weaknesses. They will then be able to incorporate their information into RamSelect to help manage their flock data and track genetic change over time.



A secondary aim of the MerinoLink DNA Stimulation Project is to genetically benchmark a cross-section of commercial breeders and work with them to explore the use of ASBVs and Genomic Flock Profiles for their ram selections.

#### BENEFITS TO THE STUD

Even though we have always kept up with the latest technology, the DNA testing is a real step-up for Rocklyn. Over the past few years, Rocklyn has been moving towards full pedigree status through the use of technology such as Pedigree Matchmaker. Table 1 on page 5 shows just how the DNA testing goes those few steps further.

Visual assessments will still play an important role in breeding selections; however, the insights the DNA tests offer are far beyond anything the human eye could ever detect, particularly at such a young age. We look forward to seeing what we can now achieve!

While there is a range of benefits that will come from this project, we believe the main benefits of genomic testing for our Stud will be:

- The ability to determine and submit full pedigree data to Sheep Genetics, which will increase the accuracy of ASBVs
- The ability to identify parentage without having to run the ewes in sire groups, which will result in greater handling efficiencies and improved pasture management
- Improved knowledge (from the DNA testing) and increased confidence in the ASBV data, which will lead to better breeding selections and greater genetic gain
- Being able to identify suitable sires and mate at a much earlier age, which will fast-track our genetic gain by reducing the generation interval
- Ultimately, being able to efficiently produce higher quality, dual-purpose stud stock with predictable traits that buyers can confidently select from to meet their own breeding objectives.



In previous years, Pedigree Matchmaker was used at Rocklyn to determine parentage. Now, tissue sampling units (TSUs) will be used to take a blood sample from selected animals for DNA analysis.

Table 1. The benefits of different methods of recording full pedigree.

Benefit	Mothering Up	Smart Shepherd, Pedigree Matchmaker	Parentage testing all	15k genomic testing some	15k genomic testing all
Pedigree assignment of all drop of sheep	1	1	1	×	1
Know date of birth, birthweight, birth type	1	×	×	×	×
Increase accuracy of ASBVs	_	/	/	1	1
Can mate in syndicates and know sire pedigree	×	×	1	1	1
Can mate in syndicates and know dam pedigree	1	1	1	1	1
Add to genomic reference population	×	×	×	1	1
Increase variation of ASBVs prior to trait measurement	×	×	×	1	1
Test for genetic defects or major genes	×	×	1	1	1
Poll/horn assignment	×	×	/	/	/

Source: Tom Granleese, UNE, July 2018

#### BENEFITS TO BUYERS

Through the parentage and genomic tests, buyers can be assured they are purchasing top genetics. Rocklyn's investment in this technology will have positive flow-on effects for our buyers including:

- Greater confidence in ASBVs when making ram selections
- More information on a range of traits not previously available and traits that are generally measured later in life (such as adult wool characteristics or mature body weight)
- Greater predictability from ram purchases, allowing for more strategic selections to target breeding objectives
- Faster genetic gains within their own flocks, leading to greater economic gains

Rocklyn will be working closely with several existing clients as part of the DNA Stimulation Project and we look forward to seeing what improvements they and other buyers can make to their flocks.



For more information on the DNA Stimulation Project visit www.merinolink.com.au

For more information on genomics and DNA testing visit www.sheepcrc.org.au

#### **CLIENT RESULTS**

Here at Rocklyn, our client's results are equally as important as our own, given that they are a reflection of our genetics.

Regular buyers, T.H. Cooper and Co., have had some great results over the past year including:

- Average adult ewe wool cut for 2018 (12 months growth) was 7kg
- Average adult ewe fibre diameter for 2018 was 18.84 micron
- Average lamb wool cut for 2018 (9 months growth) was 4kg
- Lambing percentage (of ewes joined) for 2017 was 118%. They are expecting similar figures again in 2018
- T.H. Cooper and Co. topped the breeders sale at West Wyalong in February 2018, with their recently shorn ewes attracting \$216/hd





#### SIRE EVALUATION RESULTS

Rocklyn participates in sire evaluations as an additional means of benchmarking our stock. Rocklyn sires have always achieved above average results in sire evaluations particularly in the all-important fleece weight assessments, proving that breeding plainer bodied sheep doesn't necessarily mean compromising high fleece weights. The results of two sire evaluations we are currently involved in have just been released in the last month, with excerpts from the reports included below and over page.

For more information on these and other sire evaluations that Rocklyn has participated in, visit http://merinosuperiorsires.com.au/topic/ctse sites then click on South West Slopes (2003 and 2005) or MerinoLink (2016 and 2017).

#### 2016 Drop MerinoLink Central Test Sire Evaluation - 'Wynward', Jugiong

Our entrant in the 2016 Drop Sire Evaluation was poll Merino ram 140296, sired by Tuckwood 091026. Rocklyn's 140296 performed very well and is a trait leader for greasy fleece weight, clean fleece weight and staple length as shown in the Table below.

#### Table 2. Sire means for measured traits – wool traits

Sire means are the average performance of all the progeny of a sire adjusted for all available information on sex, birth type, rear type, age of dam, age of measurement and management group, in order to improve the accuracy. No account is made for trait heritability and genetic correlations between traits that can improve the breeding value accuracy, as is the case in Table 1. The highest performing sires for each trait (trait leaders) are highlighted by shading. Curvature is the possible exception when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted. The **Progeny group** average listed at the bottom of the table is the actual mean of the progeny group.

		Ram averages for measured traits (deviations)										
Breeders flock, Ram number		GFV	V kg	CFV	V kg	FD	um	FDC	:V %	Curv deg/mm	SL mm	SS N/ktex
	No. of Progeny	γ^	Α	Υ	Α	Υ	Α	Υ	Α	Y	Υ	γ
Bogo, 400130	27	3.6	6.1	2.4	4.1	16.5	17.5	20.0	17.1	95.2	76.5	40.7
Bundilla Poll, 140055	41	3.3	6.1	2.4	4.3	16.5	17.6	19.0	16.4	94.0	82.1	36.8
Collingwood, 140200	35	3.8	6.4	2.5	4.3	16.7	17.6	19.5	16.9	91.0	81.2	38.5
GullenGamble Poll, 121070	32	3.7	6.0	2.6	4.0	16.5	17.3	18.1	15.9	87.6	87.4	39.2
Leahcim Poll, 090918 (Link Sire)	42	3.3	5.7	2.3	3.9	16.2	17.4	19.1	16.4	89.6	82.0	41.6
Mumblebone, 130389 (Link Sire)	35	3.4	5.4	2.3	3.6	17.2	18.2	18.7	15.9	87.4	88.9	38.9
Pastora Poll, 140564	31	3.4	6.2	2.3	4.2	15.6	16.7	19.8	17.6	96.5	73.9	34.2
Pooginook Poll, 140961	35	3.5	6.2	2.5	4.3	16.7	17.9	18.9	16.0	88.5	84.6	38.6
Rocklyn, 140296	22	3.7	6.2	2.5	4.4	16.6	17.5	20.8	17.5	87.4	88.2	34.4
The Yanko, 130003	30	3.7	6.2	2.6	4.3	16.8	17.7	19.6	17.0	91.8	81.8	37.4
Woodpark Poll, 120342	37	3.4	5.5	2.3	3.7	16.6	17.2	19.9	17.4	91.0	83.9	29.4
Yarrawonga, 140961	18	3.4	6.0	2.3	4.1	16.3	17.4	18.2	16.2	94.4	78.3	39.2
Average performance	32	3.5	6.0	2.4	4.1	16.5	17.5	19.3	16.7	91.2	82.4	37.4
		kg	kg	kg	kg	um	um	%	%	deg/mm	mm	N/ktex

In the classer's grade (adult) Rocklyn 140296 scored well, indicating high repeatability of good traits in progeny.

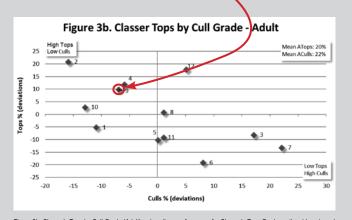


Figure 3b. Classer's Tops by Cull Grade (Adult) – describes performance for Classer's Tops Grade on the side axis and Cull Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left-hand quadrant. Classer's Tops (20%), Flock (58%) and Cull (22%) is based a visual assessment where the progeny performed well for growth, structurally sound with good wool quality traits including long soft handling wool and fleece weight.

We also topped the clean fleece weight to breech wrinkle assessment, proving that plainer bodied Merinos can still be heavy wool cutters.

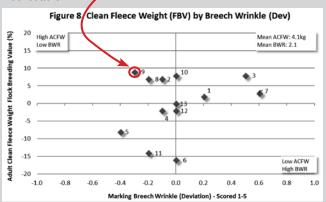
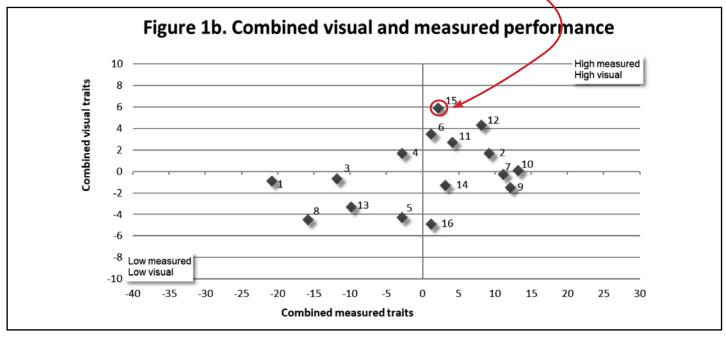


Figure 8. Adult Clean Fleece weight (FBV) by Marking Breech Wrinkle Score (deviation) — describes performance for clean fleece weight on the side axis and marking breech wrinkle score on the bottom axis. Sire that are above average for adult clean fleece weight and below average for marking breech wrinkle score are located in the top left-hand quadrant.

#### 2017 Drop MerinoLink Central Test Sire Evaluation - 'Ravenswood', Yass

The sire we selected for the 2017 Drop Sire Evaluation was horned Merino ram 120182. Rocklyn's 120182 was by Roseville Park 14 and performed well on both the visual assessment and measured traits as shown in Figure 1b below.





The Rocklyn sire for the 2017 Drop MerinoLink Sire Evaluation was ram 120182, which won Grand Champion Merino at the Grenfell Show in 2013.

**Figure 1b** is based on an AMSEA Merino Production Plus (MP+) index – (Based on a balanced wool and meat production system where surplus progeny are sold as hoggets).

Hogget rams sired by Rocklyn 120182 will be available at this year's on-property ram sale on THURSDAY 13<sup>TH</sup> SEPTEMBER 2018

120182 topped the classer's grade (yearling), indicating an even line of high quality progeny.

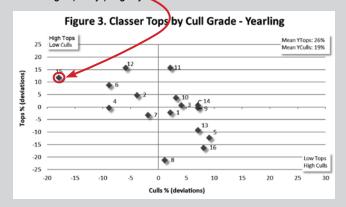


Figure 3. Yearling Classer's Tops by Cull Grade – describes performance for Classer's Tops Grade on the side axis and Cull Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left-hand quadrant. Classer's Tops (23%), Flock (47%) and Cull (30%) is based a visual assessment where the progeny performed well for growth, structurally sound with good wool quality traits including long soft handling wool and fleece weight.

# RAM SALE THURS 13<sup>TH</sup> SEPTEMBER 2018



Rocklyn's annual on-property ram sale will be held on Thursday 13th September 2018 at 'Elon' 343 Barker's Rd Greenethorpe.

- Seventy Merino and Poll Merino hogget rams by leading sires will be offered at the sale. All sale rams have been run in the paddock (unhoused) as one mob for consistency
- Inspections are welcome from 10:00am on the day, with the sale to commence at 1:00pm
- Buyers will need to register with Elders before the sale
- The sale is held under shelter
- Refreshments and lunch will be provided at the sale
- The sale catalogue will be available for download from our website www.rocklynmerinostud.com.au early September

With in-depth knowledge of the sires and sale rams, Ralph is able to help customise your ram selections to meet your breeding objectives. Why not give him a call to discuss how Rocklyn can help advance your flock?



The 2018 hogget sale rams include horned rams sired by Rocklyn and poll rams sired by Poll Boonoke, Glenlea Park, Roemahkita, Moorundie, Leahcim. Centre Plus and Collinsville through Rocklyn's Al program.

#### TOP GENETICS AT AFFORDABLE PRICES

When selecting sires for use in the breeding program, we analyse a range of visual and measured traits and consider ASBVs and Selection Indexes. We look for a balance across the traits and pay particular attention to the DP+ Selection Index and ASBVs for YCFW, YWT, YEMD and YFAT (which links to fertility).

Local environmental conditions as well as the breeding objectives of regular clients are also kept in mind when making our selections.

At Rocklyn, we put in the hard yards for you, investing significant time and money in selecting and obtaining semen from leading sires and the highest performing rams from our own lines so that we can offer you the best genetics. Our hogget rams are incredible value for money, given the effort and resources put into selecting and breeding them.

#### SIRES USED FOR THE 2018 SALE RAMS

POLL BOONOKE 150338	This ram was purchased by Haddon Rig Stud for \$44,000 in 2016. YWT 5.5, YCFW 35 , DP+ 172
POLL BOONOKE 150026	Champion March Shorn Australian Merino All Purpose Ram at the 2016 Bendigo Sheep and Wool Show. YWT 10.3, YCFW 30, DP+ 165
MOORUNDIE POLL 150007	This ram sold for \$34,000 at the Royal Adelaide Show. YWT 6.8, YCFW 21, DP+ 150
ROEMAHKITA POLL 150092	"RJ" sold for \$28,000 at the Royal Adelaide Show. YWT 7.9, YCFW 30, DP+ 190
GLENLEA PARK 011739	High ASBVs all-round. YWT 8.9 , YCFW 18, DP+ 198
CENTREPLUS 307574	High ASBVs for YWT and YFAT. YWT 13.1 , YCFW 18, YFAT 1.5, DP+ 187
LEAHCIM POLL 123153	A trait leader for YEMD. YWT 8.1, YCFW 16, YEMD 3.2, DP+ 168
LEAHCIM POLL 132624	YWT 6.0, YCFW 17, DP+ 146
COLLINSVILLE POLL 130242	High ASBVs all-round. YWT 6.3, YCFW 25, DP+ 183
ROCKLYN HORNED 120182	By Roseville Park 14. YWT 7.0, YCFW 32, DP+ 153
ROCKLYN POLL 150028	By Orrie Cowie 'Titan'. YWT 9.5, YCFW 29, DP+ 154
ROCKLYN HORNED 140207	By Severn Park 08SP30. YWT 7.3, YCFW 13, DP+ 155
ROCKLYN HORNED 150133	By Severn Park 08SP30. YWT 7.3, YCFW 22, DP+ 161

Source: MERINOSELECT 21/07/2018



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