LOW WRINKLE–HIGH FLEECE WEIGHT
PRODUCTIVE SIRES EASIER TO FIND

MERINOSELECT has added Adult Clean Fleece Weight as a standard ASBV in the website's Animal Search function. This means that both Yearling and Adult Fleece Weight are displayed – enabling woolgrowers to more reliably select animals that are good for early and adult fleece weight.

As ram breeders are increasingly collecting more hogget and adult fleece weight data on their animals (ewes and sires) the accuracy of adult fleece weight ASBVs will increase and will be less driven by the correlations with the young post weaning and yearling age fleece assessments.

Importantly the Merino Lifetime Productivity (MLP) Project continues to raise the focus on older age assessments, both visual and objective, and will provide key outcomes for genetic benchmarking and selection for lifetime productivity.

Where breech wrinkle and cover assessments have been taken, adult fleece weight will assist ram breeders to find more sires that are both relatively high for fleece weight and low for wrinkle, and improve the future sustainability and welfare of their Merino enterprise.

The Breeding for Breech Strike Resistance project (2006-2016) has shown that gains in both production and welfare traits can be made at the same time but that the rate and impact of the progress is dependent on starting breech scores, environment (length and intensity of the strike risk and risk of dags) and the variability of these traits within each Merino type.

FAST FACTS

1. MERINOSELECT has added Adult Clean Fleece Weight as a standard ASBV in its Animal Search function. This means that both Yearling and Adult Fleece Weight are now displayed in the website search function – and therefore woolgrowers will be able to more easily select animals that are good for early and adult fleece weight.

2. The MERINOSELECT search function can be used by an individual to find objectively assessed sires that best meet their breeding objectives.

3. There are sires available to ram breeders that are trait leaders for productivity and welfare traits.

4. Ram breeders are selecting for productivity and welfare; but with more sires assessed for these traits, further increases in the number of suitable sires will occur.

5. Taking older age fleece weights and submitting body and/or wrinkle scores would increase the number of directly measured sires to select from and lead to increases in the genetic gain of these traits.

Head to www.sheepgenetics.org.au then from the header menu select 'Getting started' and then 'How to use the databases'.

MERINOSELECT has added Adult Clean Fleece Weight to the standard ASBVs that appear in their Animal Search function.

This can be found by going to **www.sheepgenetics.org.au**, then:

- Click on 'MERINOSELECT'
- Click on 'MERINOSELECT Analysis Results'
- You can then click on one the 18 different standard search lists that may interest your enterprise (this includes rams with semen available or currently listed for sale)

To specifically search for sires that are high in adult fleece weight, low in wrinkle, and high on both Merino Production and Dual Purpose Indexes several steps need to be followed.

- Click on 'MERINOSELECT Analysis Results'
- Click on 'Advanced search'

1. In the 'General criteria' section:

- Click on SIRE in the 'Sire/Dam/Any' box
- Type 20 in the 'With at least progeny' box
- Click on 'With current drop progeny' to tick it

2. In the 'ASBV criteria' section, tick the Trait Leader boxes for:

- Adult Clean Fleece Weight (ACFW)
- Early Breech Wrinkle (EBWR)
- Merino Production Plus Index (MP+), and
- Dual Purpose Plus Index (DP+)

3. In the 'Result Sorting' section:

- Click on 'Merino Production Plus', so the selected sires appear in decreasing Index order

4. Then you can complete your search:

- Click on 'Search' in the bottom left hand corner.

The data is updated every two weeks but, using data from the 21 April 2019, seven sires (see Figure 1 on opposite page) met the criteria.

ASBV trait leader and percentile

Trait	Trait Leader ASBV (top 10%)	Average ASBV	Bottom 30%
Adult Clean Fleece Weight (ACFW)	>+19.2	9.4	<+5.3
Breech Wrinkle (EBWR)	< -0.7	-0.2	>+0.1
Breech Cover (EBCOV)	<-0.4	-0.1	>+0.1
Dags (LDAG)	<-0.3	-0.1	>+0.0
Merino Production Plus Index (MP+)	>+159	+137	<+128
Dual Purpose Plus Index (DP+)	> +160	+137	<+128

(Since 2000 there has been a breed reduction of 0.2 breech wrinkle score, a reduction of 0.1 breech cover score and reduction of 0.1 dag score.)

Figure 1: Sire selection based on: current sire with more than 20 progeny, trait leader for adult fleece weight, wrinkle, Dual Purpose and Merino Production Index. Trait leaders' criteria is highlighted yellow in the table.

Animal ID	YWT	AWT	YEMD	YFAT	YCFW	ACFW	YFD	YDCV	YSL	YSS	YWEC	NLW	EBWR	EBCOV	LDAG	LMY	IMF	SHEARF5	INBREEDING	BREED	POLL	FP	FP+	MP	MP+ ↓	DP	DP+
EHURST-150517	10.2 (84%)	9.1 (79%)	1.8 (84%)	1.2 (77%)	32.4 (92%)	21.3 (78%)	-0.4 (95%)	-0.9 (92%)	24.0 (93%)	0.7 (91%)	-	6% (44%)	-	-	-	-0.45 (78%)	0.87 (60%)	-1.0 (56%)	0%	1.00 (43%)	-	142 (48%)	152 (63%)	165 (44%)	178 (59%)	153 (32%)	192 (52%)
OTECH WA-133399 MSS REF	10.0 (93%)	7.4 (91%)	2.1 (91%)	0.8 (84%)	38.5 (93%)	24.1 (86%)	1.2 (94%)	-2.8 (92%)	20.2 (92%)	12.1 (91%)	-60 (89%)	-1% (57%)	-0.7 (94%)	-0.2 (88%)	0.2 (91%)	0.40 (88%)	0.16 (81%)	-1.0 (71%)	1%	1.00 (100%)	PH	140 (51%)	156 (72%)	163 (46%)	177 (68%)	147 (36%)	183 (64%)
OONA-140012 MSS SA	9.9 (94%)	8.0 (84%)	0.8 (82%)	0.5 (79%)	39.4 (93%)	24.8 (83%)	0.1 (96%)	-1.4 (94%)	26.3 (89%)	0.1 (88%)	-68 (79%)	-1% (46%)	-0.8 (84%)	-0.3 (92%)	0.1 (89%)	-0.04 (72%)	0.22 (59%)	-1.7 (49%)	0%	1.00 (57%)	PH	146 (50%)	146 (68%)	170 (46%)	165 (61%)	151 (36%)	169 (55%)
LOO PARK-150245	5.3 (95%)	3.4 (88%)	0.7 (93%)	0.5 (91%)	27.3 (87%)	20.0 (79%)	-1.0 (94%)	-0.6 (91%)	13.3 (92%)	0.9 (71%)	-	-	-0.8 (90%)	0.1 (81%)	-	0.06 (58%)	-0.31 (44%)	3.0	0%	1.00 (3%)	PP	141 (48%)	145 (50%)	155 (44%)	162 (45%)	136 (36%)	163 (38%)
ER VALE-150758 MSS REF CPT SA	10.8 (96%)	10.8 (95%)	1.2 (94%)	0.7 (89%)	29.2 (96%)	23.0 (83%)	0.6 (97%)	-0.7 (96%)	11.5 (96%)	1.9 (92%)	109 (72%)	4% (49%)	-0.9 (95%)	-0.1 (92%)	-0.4 (85%)	0.53 (90%)	-0.53 (85%)	3.5 (77%)	0%	0.87 (53%)	PH	129 (51%)	124 (69%)	154 (47%)	162 (64%)	153 (37%)	173 (58%)
WOOD-150776	10.2 (92%)	9.5 (85%)	1.1 (86%)	0.8 (81%)	21.6 (79%)	19.4 (74%)	-0.2 (91%)	-0.6 (89%)	19.0 (84%)	0.0 (65%)	-	7% (21%)	-0.8 (61%)	-0.4 (52%)	-0.1 (45%)	1.03 (52%)	-0.33 (43%)	2.4	0%	-	PH	137 (45%)	142 (47%)	161 (41%)	155 (43%)	155 (34%)	179 (40%)
RIN-140083	8.5 (95%)	8.2 (90%)	2.7 (87%)	1.0 (80%)	22.6 (85%)	20.7 (89%)	0.1 (91%)	-1.0 (89%)	14.5 (85%)	2.0 (73%)	-45 (82%)	5% (47%)	-0.9 (93%)	-0.9 (54%)	-0.2 (89%)	0.88 (80%)	-0.87 (65%)	2.1 (53%)	0%	1.00 (63%)	PH	134 (52%)	145 (46%)	151 (46%)	160 (60%)	147 (37%)	186 (56%)

These results are calculated from raw data collected by breeders and/or other third parties. We do not oversee or audit the collection of this data and therefore do not accept any responsibility for the accuracy, reliability or completeness of these results. You should make your own enquiries before using these results to make decisions concerning your interests

Helix symbol = the sire has been genotyped (DNA tested)
MSS = the sire has been used in Sire Evaluation
REF = the sire has been used in the MLA Resource Flock

CPT = the sire has been used in the NZ Merino central progeny test flock
SA = the breeder has informed Sheep Genetics that there is semen available.

These seven sires are also high in body weight, fibre diameter, fat and muscle. They may or may not suit many ram breeders, so other criteria needs to be entered to select the best sires relevant for other breeding objectives and/or sheep types.

A wide range of alternative criteria can be selected. If a search selects sires with a maximum Fibre Diameter ASBV of -3.0 and a trait leader for the Fibre Production Plus index, the lowest wrinkle ASBV animal that meets the criteria is 0.0. This is 0.2 score higher than average for the Merino database. It is very difficult to find and breed low FD sheep that are also trait leaders for the FP+ index and for low wrinkle.

However, every 0.1 reduction in breech trait score improves welfare outcomes for both mulesed and not mulesed enterprises.

Target progeny wrinkle ASBVs to go non-mulesed without significantly increasing the reliance on chemicals and crutching varies greatly between regions – generally between -0.3 in drier low strike risk regions to -1.0 in high strike risk regions. Approximately 3% of animals have a wrinkle score of -1 and lower.

Based on the MERINOSELECT run data dated 21 April 2019:

- Searching for sires that are trait leaders for wrinkle, cover and Dual Purpose Plus index results in 19 sires meeting the criteria.

- Searching for sires that are trait leaders for wrinkle, cover and Merino Production Plus index results in seven sires meeting the criteria.

- There are currently no sires that are trait leaders for wrinkle, cover and are Super Fine type Merinos.

- Searching for sires that are trait leaders for winkle and dags results in only 25 sires meeting the criteria. Twelve of these sires are also trait leaders for breech cover.

- Searching for sires that are trait leaders for adult fleece weight, wrinkle, dags and Dual Purpose Plus index results in only one sire meeting the criteria. With around half of Australia's Merinos in areas where dags are an issue for strike and stain, there is some way to go before there are large numbers of progeny naturally resistant to strike in high dag areas.

ASBVs for wrinkle, cover and dags were released in late 2009 (relatively recent in genetic improvement terms) and there are breeders keenly selecting for these traits and making increasing gains in both productivity and breech strike resistance. These studs have sires that show up in these searches, however the low numbers from the searches above demonstrate the current difficulty in finding and breeding naturally flystrike resistant Merinos, particularly in high risk areas.

Most of the sires that meet the search criteria of the above scenarios are young sires, which highlights the recent progress that is being made, ie the older AI sires bred pre 2014 are rare to find in the above searches.

While the number of sires with adult fleece weight, wrinkle, cover and dag assessments is increasing, there would be a much larger number of sires that meet the search criteria if more animals were formally assessed and, therefore, available to ram breeders seeking trait leaders in these areas. To increase the number of sires with direct assessments, MERINOSELECT members can collect older age fleece and breech traits and non MERINOSLECT ram breeders can consider entering their likely candidate sires into Merino Sire Evaluation trials.

MERINOSELECT is planning to include neck and body wrinkle in the Breech Wrinkle ASBV as there is very high correlation between the wrinkle traits. This will result in ram breeders with very plain sheep and ram breeders that have mulesed their animals being able to generate wrinkle ASBVs on all their current ewes and sires.

The searches do reveal the size of the challenge ahead and the value of new breeding objectives that select for both improved productivity and welfare, given the time it takes to build genetic momentum in ram breeding flocks, and then spread those genetics through to the progeny of commercial flocks. B

MORE INFORMATION
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