NEW ZEALAND CASHMERE

2018

USA SEMEN

www.nzcashmere.com

NEW ZEALAND CASHMERE

Offering a unique chance to access leading cashmere genetics from New Zealand and Australia.

2017 New Zealand Cashmere Flock shearing preformance; All mixed age does 16.21um @209g; Top 50 does 16.1 @ 243g; Buck hoggets 14.67um av; Doe hoggets 14.68um av

Goats first arrived in New Zealand with the first settlers on early sailing ships in the 1840's to provide food, milk and fibre Located in New Zealand's southern province of Otago the NEW ZEALAND CASHMERE flock is situated on the northern side of the rugged Catlins Ranges which lie exposed to the "Roaring Forties" latitude trade winds of the wild Great Southern Ocean. The sometimes-harsh weather has shaped a goat, naturally adapted to this environment with a sensuous cashmere undercoat. This special fibre protects and keeps them incredibly warm during winter and its long southern nights.

NEW ZEALAND CASHMERE is owned by Southern Otago farmers David & Robyn Shaw. Starting the herd in 1985 from 50 multicoloured feral does and 3 subsequent feral flock purchases, combined with outside bloodlines screened from 10,000's of feral goats with naturally resilient qualities, the aim has always been to produce the most exquisite cashmere. The New Zealand goat industry grew rapidly but by the 90's a number of factors triggered a collapse. This provided a huge opportunity. The downturn provided large numbers of goats and whole flocks to become available. Through this period a number of leading prominent flocks and blood lines were acquired and introduced. Some of these flocks were the apex of selections and breeding programs from 10,000's of goats across New Zealand and Australia. From this diverse genetic base and with careful selection of sires, thousands of kids have been born over multiple generations. We continue to test animals with an Australian Merrrit buck included here.

Selected for style, cover and downweight today the flock produces pure white cashmere in a 12 to 17 micron range. Our Cashmere goats are integrated into our commercial 400ha Beef and Sheep intensive finishing farming business where they have to be productive producing kids and fibre but be low input, sound and healthy. All the goats are recorded and fibre tested. The 2017 shearing produced a doe flock average of 16.2 microns and doe hogget's (10 month olds) of 14.6 microns. The leading does are producing over 300g of down and two kids a year. We have put particular emphasis on very even total cover, excellent fibre definition, fibre length and density, and body conformation and structural soundness.

Continuing New Zealand's legacy and heritage of cutting edge farming we believe there is opportunity to further develop unique fibre attributes and significantly continue to grow cashmere down weights. Our 35 years' experience farming goats with persistence, tenacity and passion developing the Cashmere flock, have combined with sophisticated measurement and breeding programs in modern farming systems. Our goats also contribute greatly by converting previously costly weeds like thistles and gorse to high value products as well as being complementary to our sheep and beef systems by enhancing their production.

New Zealand is renowned for sustainable farming systems, pristine environment and beauty. Pure water falls consistently from the sky and melds with rich fertile soils to grow lush pastures that give life and strength to the cashmere. This rare luxurious modern cashmere fibre has been produced and **for the first time we are now making these genetics available in the North American market**.

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3785 - McCAW

June 2017 following mating

May 2017 - 9 months old prior to being used for mating

NEW ZEALAND CASHMERE

Name **NZ Cashmere McCaw**

DOB 24/08/2016
Birth rank Twin
Birth colour Superwhite
Tag **NZC 3785**

Body weight 29-12-17 47.2 kg 105.7 lb

Fleece performance

	Age	Total Fleece weight	Yeild %	Total Down weight	MFD (<35*u*)	Mean Curve (Â°/mm)	Staple Length (mm)	SD *u*	CV %	Colour	Comment at shearing
29/08/2017	1yr	546	* 60	**328**	**15.2**	63.9	61	2.6	16.9	WW	Exceptional cover & style, particularly front shoulder. Very dense, quite a bit left on when shorn, very nice style
28/02/2018	1.5			17.1	60.4	66	2.7	16.1			

Comments: 3875 has tremendous cover, style and body conformation. He was used for 2017 mating at 8 months old and then went to quarantine and semen collection. This would have affected his first fleece results. He has a very dense fleece and quite a lot of fibre was unable to be shorn off. He is medium micron but would add great attributes such as cover and style to selected does.
From 36 kids born from his 2017 mating from white 1year does - 32 were Superwhite; 1 was white; 3 were Cream

SIRE

3774 was born from a group mating.
What we considered the five best 2014 born 8 month old buck kids were run with the top mixed age does. 3275, 3336, 3433, 3476, No tag

	3275	**3336**	**3433**	**3476**	**No Tag**	
Born Sept 14						
2015 1y fleece	13.2	15.2	14.7	13.9	14.4	av fibre
2016 2y fleece	16.7	17.9	16.3	15.9	17.6	diameter
2017 3y fleece	17.2	17.2	16.6	17.1	16.6	microns

DAM **3199**

DOB NA
2014 kidding Single
2015 kidding NA
2016 kidding Twins

2014		534	* 50%	267	* 18					WW	Exceptional cover & style
2015		488	* 50%	244	* 18					WW	Ex cover, long good style
2016			* 45%	207	16.9					WW	
2017		546	* 55%	300	18.5	68.3	51	2	10.8	WW	A++, exceptional cover & Style

* Assessed visually when grading fleeces Other numbers are from actual weights or fibre testing

NEW ZEALAND CASHMERE

McCAW

3774 - DIXON

Name **NZ Cashmere Dixon**

Date of Birth 22/08/2016
Birth rank Twin
Birth colour Super White
Tag **NZC 3774**

Body weight 29-12-17 49.2 kg 110 lb

Fleece performance

	Age	Total Fleece weight	Yeild %	Total Down weight	MFD (<35*u*)	Mean Curve (Â°/mm)	Staple Length (mm)	SD *u*	CV %	Colour	Comment at shearing
29/08/2017	1	334	* 55 %	**184**	**14.9**	74.7	42	2.4	15.8	WW	
28/02/2017	3774				17.8	55.4	43	2.8	16		

Comments: Very fine style, exceptional handle, very even cover. Very good conformation and feet. Dixon was selected and used for 2017 mating and then went to quarantine and semen collection. This would have affected his first fleece results. He is very fine and from a very stable background
From 14 kids born from his mating from white 1year does - 11 were Superwhite ; 3 were gold

SIRE

3774 was born from a group mating.
What we considered the five best 2014 born 8 month old buck kids were run with the top mixed age does.
3275, 3336, 3433, 3476, No tag

	3275	**3336**	**3433**	**3476**	**No Tag**	
Born Sept 14						
2015 1y fleece	13.2	15.2	14.7	13.9	14.4	av fibre
2016 2y fleece	16.7	17.9	16.3	15.9	17.6	diameter
2017 3y fleece	17.2	17.2	16.6	17.1	18.2	microns

DAM **3202**

Date of Birth NA
2014 kidding Single
2015 kidding NA
2016 kidding Twins

2014	2	362	* 45 %	**163**	*** 16**					WC	Ex style, shorter, Dnese
2015	3	348	* 50 %	**174**	*** 16.5**					WC	Ex cover & style, WC
2016	4	394	* 50 %	**197**	**16.8**	71.5	53	3.1	18.7	WC	A+, excellent cover, WC
2017	5	364	* 50 %	**182**	*** 16**					WC	WC, nice style

* Assessed visually when grading fleeces Other numbers are from actual weights or fibre testing

December 2017 - 15 months old. 3 months spring fleece showing. August Shorn- southern hemisphere opposite seasons

NEW ZEALAND CASHMERE

DIXON

3476 - ADAMS


June 2017 following mating


Shearing August 2017

Name **NZ Cashmere - Adams**

DOB 20/09/2014
Birth rank Single
Birth colour Super white
Tag **NZC 3476**

Body weight 29-12-17 71 kg 159 lb

	Age	Total Fleece weight	Yeild %	Total Down weight	MFD (<35*u*)	Mean Curve (Â°/mm)	Staple Length (mm)	SD *u*	CV %	Colour	Comment at shearing
13/07/2015		452	* 40%	**181**	**13.9**	71.4	64	2.5	16.9	WW	Plainer style
27/07/2016		550	* 50%	**275**	**15.9**					WW	Top buck, best style
2017 - March					**17.1**	52.2	39	2.8	16.6	WW	Excellent definition
2017 - Aug		628	* 50%	**314**	**17.5**	43	59	2.6	14.6	WW	

Comments: Has been used in the 2016 and 2017 matings. This large handsome buck has tremendous bone,conformation and very sound feet in our wet environment . He has very even cover with good cashmere across the body with particularly good definition. We see these attributes coming through to his kids

From 45 kids born from his 2017 mating from our mixed age white does their birth colour was - 25 were Superwhite; 8 were white; 10 were Cream; 2 were Gold

SIRE **R189** R189 was a large very well grown buck with good cover and very sound feet

We don't have much info on the buck as he was used over a period when not much recording was being done and some information was lost due to a hard drive meltdown

13/07/2015					**17.6**	60	57.3	3.6	19.8	WW	

DAM **3209**

DOB NA
2015 kidding Single
2016 kidding Single

2014		844	* 40 %	**338**	* **17.5**					WW	Very wooly, big fleece, big doe
Oct-14										WW	Nice spring growth
2015		644	* 45 %	**290**	* **18**					WW	Ex cover, big doe
2016		578	* 50 %	**289**	**18.6**	57.6	53	4	21.3	WW	B, Big doe, excellent cover

* Assessed visually when grading fleeces Other numbers are from actual weights or fibre testing

December 2017 - 3 years 3 months

NEW ZEALAND CASHMERE

ADAMS

L120 - Oz

Bathampton flock history and background

www.bathamptoncashmeres.com

www.cashmeremerrrit.com

NEW ZEALAND CASHMERE

Name **NZ Cashmere Oz**

DOB 2015

Birth rank

Birth colour

Tag **Bathampton L120**

Body weight 29-12-17 46 kg 103 lb

Fleece performance

	Age	Total Fleece weight	Yeild %	Total Down weight	MFD (<35*u*)	Mean Curve (Â°/mm)	Staple Length (mm)	SD *u*	CV %	Colour	Comment at shearing
Jun-16	1	472	67.1	**317**	**14**	58.5		3.9	27.9		
13/01/2017	1.5	551	67.5	**317**	**15.7**	64.7		4	25.5		
29/08/2017	2	520	* 50%	**260**	**15.1**	63.2	40	2.8	18.6	WW	
				577							
28/02/2017	2.5				15.5	54.9	57	2.4	15.6	0.28	100

Comments: This Australian buck was imported to New Zealand in March 2017 and used in our flock across a random selection of does. He was picked from the elite herd that ranks the highest in the Australian Cashmere Growers Association "Merrrit" assessment program. The total weight of down off 577 g at 15.1 um on his August test is very impressive given it was grown during shipping and 2 periods in quarantine facilities of approx 3 months and being used here at NZ Cashmere during mating. The last fleece yeild assesment probably understates the percent.

From 11 kids born from his 2017 mating from our mixed age white does their birth colour was - 8 were Superwhite; 1 was white; 1 was light brown; 1 was brown

SIRE Bathampton J097

(ATJ J097)

	1		76.18	**300**	**14.14**						
	2		72.7	**803**	**15**						
	3		52.21	**533**	**16.35**						

Merrrit BV Indexs: Finess -0.616*um* ; Down weight +222.156; McGregor +180.723g; B

DAM Bathampton Leila Mix 8

(ATJ D273)

	1		36.76	**123**	**14.06**						
	2		47.04	**266**	**15.3**						
	3										
	4		42.96	**211**	**14.69**						
	5		58.82	**297**	**15.56**						
	6		38.27	**160**	**15.3**						

Merrrit BV Indexs: Finess -0.693*um* ; Down weight +63.79g; McGregor +55.999g

December 2017 - ridge cover around neck was accidently left on at shearing

NEW ZEALAND CASHMERE

Oz

L120 pedigree + BV's

NEW ZEALAND CASHMERE

Performance pedigree for L120
1.. 14.0, 67.1, 317
1.5. 15.7, 67.5, 317

<table>
<tr>
<td rowspan="8">S.. Bathampton J097 (ATJ J097)
1.. 14.14, 76.18, 300
2.. 15.0, 72.7, 803
3.. 16.35, 52.21, 533
-.616 222.156 180.723 B</td>
<td rowspan="4">S.. Bathampton (ATJ F073)
1.. 14.77. 52.80, 174
2.. 15.12. 59.26, 480
3.. 15.79. 54.05, 527
-.805 12.561 29.242</td>
<td rowspan="2">S.. Bathampton Darwin (ATJ D217)
1.. 13.63, 49.28, 207
2.. 14.59, 64.93, 435
-1.398 35.84 57.158</td>
</tr>
<tr>
<td>D.. Bathapton Cristine Mix 53 (ATJ A139)
1.. 14.77, 63.3, 215
2.. 15.93, 52.82, 544
3.. 15.96, 37.13, 262
4.. 15.62, 49.34, 364
5.. 15.59, 44.7, 313</td>
</tr>
<tr>
<td rowspan="2">S.. Bathampton Commander (ATJ C068)
1.. 13.96, 66.3, 252
2.. 15.72, 65.3, 816
3.. 17.58, 62.7, 796
90.586 90.586 78.998</td>
</tr>
<tr>
<td rowspan="4">D.. Bathampton Libby Mix 21 (ATJ E148)
1.. 15.95 60.0, 378
2.. 17.82. 72.40, 670
3.. 18.19. 64.47, 471
4.. 19.3, 76.6, 808
.212 233.395 154.533</td>
<td>Bathampton Libby Mix 16 (ATJ A083)
1..14.85, 64.5, 210
2.. 16.68, 51.14, 404
3.. 17.19, 53.67, 327
4.. 17.18, 50.6, 369
5.. 17.49, 67.3, 525</td>
</tr>
<tr>
<td rowspan="8">D.. Bathampton Leila Mix 8 (ATJ D273)
1.. 14.06, 36.76, 123
2.. 15.30, 47.04, 266
4.. 14.69, 42.96, 211
5.. 15.56, 58.82, 297
6.. 15.30, 38.27. 160
-.693 63.79 55.999</td>
<td rowspan="4">S.. Bathampton Bomber (ATJ B052)
1.. 14.19. 69.6, 313
2.. 16.01. 63, 545
3.. 16.02. 62.91, 591
-0.478 113.816 93.242</td>
<td rowspan="2">S. Bathampton Ziggurat (ATJ Z067)
1.. 14.53, 78.01, 304
2.. 15.74, 63.6, 512</td>
</tr>
<tr>
<td>D.. Bathampton Marigold Min 58 (ATJ W066)
1.. 14.3, 55.6, 122
2.. 15.6, 41.0, 154
3.. 15.7, 32.7, 132
4.. 15.74, 42.14, 189
6.. 15.84, 32.76, 178</td>
</tr>
<tr>
<td rowspan="4">D.. Bathampton Leila Mix 3 (ATJ A128)
1.. 15.41. 77.68, 256
2.. 16.84, 72.77, 604
3.. 17.20, 47.7, 236
4.. 15.94, 55.35, 296
5.. 15.55, 64.38, 315
-0.232 116.622 75.57</td>
<td rowspan="2">S.. Bathampton Yield Mix (ATJ Y042)
1.. 16.5, 65.0, 475
2.. 18.1, 73.5, 1381
.563 346.126 202.42</td>
</tr>
<tr>
<td>D.. Bathanpton Leila (ATJ W114)
1.. 14.3, 50.4, 126
2.. 16.1, 45.9, 200
3.. 16.4, 32.2, 147
4.. 17.82, 39.72, 177</td>
</tr>
</table>

Definitions

DEFINITIONS OF SYMBOLS AND TERMS USED IN THIS CATALOGUE

NOTE - Some are subjective and require personal judgement and interpretation. Some terms will have different meanings in different regions

MEASUREMENT	**Care needs to be taken when interpretating individual goat tests. A variety of testing services and assessments have been used for the supporting buck information in this catalogue. All have margins of error. Fibre attributes also can vary across the body of the goat, and from the same animal within one season and over its lifetime. No one test is definitive of the quality of an animal so should be balanced against other measures and personal judgement to meet personal breeding objectives. It is more important when breeding to first select the flock and goat family background that allign with your breedng objectives before choosing the individual goat. Objective measurements are always more accurate than people. Humans have different likes and mixes which is the "art" in animal breeding. We haven't breed the prefect animal yet.**
Records and information	Our best endevour has been made to supply all the information we have on these Bucks. We have a gap in information bewteen 2005 and 2013. We were single sire mating over this time but were not collecting intensively. We also loss some records due to a computer hard drive failure. Some measures are also missed on goats for a variety of reasons. Where "records not available" or "computer data lost" recorded as NA (not available)
TFW (grams)	**Total fleece weight** in grams (shorn guard hair and cashmere down)
Y%	**Yeild** - Down content of fleece expressed as a weight as a percentage of the total fleece. Yeild can be assessed subjectively by trained classers by classing fleeces within bands of % or calculated more objectively by algorithms or machine separation during fibre testing. Care needs to be taken as fibre may include grease and moisture in raw fibre and this yield will differ from cleaned fibre yeild. Yeild should ideally be medium to high. Low yeilding fleeces will incur greater costs in dehairing and return less to the producer per kg of dehaired cashmere. CAUTION: This figure may vary significantly during the lifetime of the animal depending on nutrition, stress, pregnancey, lacation etc.
TDW (grams)	**Total down weight** in grams. Down content of the fleece in grams, calculated from the total fleece weight multipled by the yeild
MFD (*um*)	**Mean fibre diameter** in micrometers. In New zealand and Australia only fibres <35 microns have been measured. This alligns with the down component of the cashmere goat fleeces
SD (*um*)	**Standard Deviation** of MFD in microns. The measure of distribution of dispersion of diameters about the mean diameter. The smaller the number, the less dispersion about the mean which is perferable.
CV%	Covariance or **Coefficient of Variation**. This also is a measure for the assessment comparison of different animals. The smaller the CV(%), the less variation in fibre diameter. Relates the standard deviation to the mean. This figure is far more meaningful than SD. NB - High CV% or SD (um) in kid fleece may indicate the presence of kid guard hair.
Colour	All kids are given a colour assessment when tagged. Grades are Superwhite, White, Cream, Gold, Ginger, Brown, Blue, Black. This is an indication of future colour and for buck progeny colour assessment
Mean Curvature (Â°/mm)	Curvature is an influential measurement in the overall performance of fibre. Measurement of the degree of curve or crimp in the cashmere. In cashmere it is not usually to see a defined crimp as in wool. **Curvature** influences human factors of handle and feel in garments, and yarn attributes of loft and bounce. It is the characteristic that enables the fibre to be spun into a lighter yarn through needing less fibres in the cross section of the yarn, at the same time giving greater loft or fill, more air entrapment, bounce and drape and a softer feel caused by the sensory friction of mostly touching the roundness of the curve. Counterintuitively Australian research associates softness with lower curvature values at an equal micron fibre.
Medulation	These are hollow hair like fibres. They may show up as fine guard hairs which are hard to removed when dehairing. Their different structure may affect yarn colour as they reflect light and take up dyes differently. They can create a different feel a garment.
Intermediate fibres	These fibres usually fall in micron ranges that fall at the coarse edge of cashmere down fibres. They can be very fine guard hairs or mohair type fibres from crossbreds. Intermediate fleeces should be eliminated as they are hard to remove during dehairing and cause issues in yarns and garments. These can be the same or similar to medulated fibres.

Definitions

Handle	Fine micron fibre, curvature of fibre, cashmere staple length vs guard hair length, cashmeredown yeild - all influence handle or softness
F1, F2, F3 etc	F1, F2 is widely used by livestock industry to denote the first generation of a planned breeding program - filial or daughter. Feral or farmed feral, F1 - 1st generation, F2 - 2nd generation etc. Beyond F2 farmers will generally regard animals as cashmere goats and make assessment on whether they suit their requirements. Buyers should seek production-related information eg average flock per head production and micron, kidding percentage, liveweights etc.
EBV diameter	Estimated breeding value for cashmere fibre diameter of the second year's fleece.
EBV Down weight	Estimated breeding value for cashmere down weight of the second year's fleece.
EBV McG Index	Estimated breeding value for McGregor Index of the second year's fleece. McG index is explained at http://cashmeremerrit.com/
Merrit Grade	Australian Cashmere Growers Association cashmere genetcic evaluation program. This is explained at http://cashmeremerrit.com/

Definitions

FIBRE ATTRIBUTES

Style	Our goats cashmere is assessed for style. This is to some degree subjective combining several factors such as length, crimp, degree of brightness or lustre. Also associated with attributes of Handle
Cover	Ideally cashmere should grow over the full body. Goats are assessed and given a rating at shearing.
Down length	Is an important factor for selection. It is highly correlated to down weight so selecting for down staple length also selects for higher down weights. For viable shearing and processing down length should be longer than 35 mm. Short fibres get lost in the dehairing process. Traditional source cashmere is typically 35 to 45 mm long. Longer cashmere has the ability to be used in worsted style spun yarns and thred.
Density	Density contributes to Total Down Weight. Density results from more fibres being grown per area and delivers a thicker feel and greater compactness of the fleece
Fineness	Cashmere is graded on micron ranges. "0 grades" - are <15.5 um; "1 grades" 15.5 to 17.0 um averaging less than 16.5 um; "2 grades" 17 to 18.5 um; >18.5 um Generally regarded as Cashgora even though it may have and exibit cashmere down type attributes.
Evenness	It is desirable to have a fleece with an even cashmere diameter across the boby from the neck to the britch. Some goats have stronger fibre up onto the neck. Care should be taken when doing fibre tests these can be misleading if taken from only one point from the body. "3 point" body samples or grid testing boards can help obtain more representative fleece testing samples.
Guard Hair length	Cashmere goats can have long, medium or short Guard Hair lengths. GH length is independent of cashmere down length. GH length contibutes the Guard Hair component of Total Fleece Weight and Yield of down component of the total fleece. GH can be selected against and minimised on the goat. This depends on the local environment as protection for weather is a consideration. In early stages of breeding and selection Total Down Weight and Fibre Definition are more important selection criteria as all fibre requires "Dehairing" first stage processing
Handle	Cashmere is renown for its extremely soft touch and feel. This combined with warmth and lightness, makes handle the "selling point" for Cashmere garments.
Colour	Cashmere goats come in all colours. What is seen when looking at a goat is prodominantly the Guard Hair colour. This influences the cashmere down colour grading but not the down colour itself. The cashmere colour can range from white, to grey and brown. Grades used are influenced by these colours and reflect cashmere colours of dehaired down. WW - white cashmere with white guard hair; WC - white cashmere light ginger guard hair; GY - Grey, cashmere generally white or slight creamy colour and may contain a few coloured guards following dehairing than haven't been able to be removed; BR - brown, generally produced from dark brown or black goats. Some dark coloured goats may produce light coloured down which goes into grey lines. White fibres can also be a contaminant in Brown cashmere the same way Dark fibres are in White goats
Fibre type - Cashgora	Cashgora is a crossbred fibre and unacceptible. This fibre is generally above 18.5 um and was a consequence of crossbreeding programs to multily up Angora Mohair producing goats. The G4 - 1st X had a fleece that had broadly speaking three fibre components: coarse guard hair, a fine down "cash" component and long shiny and straighter "intermediate" fibre or "gora". The fine mohair type fibres are a serious fault and linger as "intermediate" or "shiners". These are difficult to remove at dehairing as they affect yarn dying by taking the dyes differently and showing up in yarns. Upgrading cashmere animals today will come off base does that are prodominantly feral types or possibly dairy origin.
Definition	Is the ratio or range of variation between cashmere down fibres and guard hairs. Ideally cashmere goats should have a sharp distinction between the down component of the fleece and the guard hair. There should be little or no overlap with guard hairs being at least 3x's the diameter of the down. Combined with tight SD and CV this improves and eases dehairing leading to higher quality recovered down that has less fibre breakage