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SHEEP DATA STANDARDS PROJECT

Recommended trait terminology and formats with data dictionary

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Report to support the unifying of typical trait codes used in data management (from collection to analysis reporting) in data format standards that can be used throughout the sheep industry.

EXECUTIVE SUMMARY

The purpose of the Sheep Data Standards Project was to

- Deliver a set of consistent standardised trait definitions for use across the whole industry,
    - including a commonly supported standard name, abbreviation and field type for each trait
- Specifying a set of standardised industry file formats to simplify the transfer/import/export of data between all players
- Provide education and assistance to all relevant stakeholders to enhance adoption.

This has been considered necessary as there has been a diverse and often fragmented approach to data capture and handling, a problem with differing trait terminology, format of electronic data files, and import/export of files between different sections of data usage. In addition, the standard DBF format used by Sheep Genetics and others in the industry is no longer available or supported by Microsoft products.
The Sheep CRC has provided funding to address these issues.

Research for this project has included discussion with a wide range of industry businesses. These have included input from genetic service providers, breeders, data collection contractors and manufacturers, fleece testing houses, computer software providers as well as sheep industry organisations. This has resulted in an overload of possible industry standards and it has taken considerable time and discussion to put forward a set of recommendations for the industry. In addition it has highlighted the need for a common data dictionary or glossary of terms for the sheep industry which has been included in the report.

The report offers a set of 122 traits that are most commonly used within the sheep industry to record and measure progeny performance and genetic progress. An allowance has been made to accommodate Sheep Genetics analysis requirements for data interpretation. There are differences within and between the breeds on what is important data to be collected and so at any one time most breeders will be selecting only some of the trait fields.

It has been agreed that the standard for electronic tags in sheep have a space after the first three digits.

The industry generally is working towards providing a Microsoft Excel data file standard called XML for data output/input files. However there is still a need to be able to use and accept the recognised comma delimited (CSV) file formats that are prolific within the industry until XML becomes more widely adopted.

While it is clear that the needs of various participants in the sheep industry vary, this report recommends that the recommended standard trait terminology and required formats be adopted and that once overviewed, in particular by the sheep software industry sectors, that additional education and assistance to all relevant stakeholders be provided. However, until this report is accepted by the Project Team, education and assistance cannot be undertaken.

TABLE OF CONTENTS

SHEEP DATA STANDARDS PROJECT

RECOMMENDED TRAIT NAMES, CODES & DATA TYPES

The recommended trait codes are listed in the report below and are either the representative sample of industry usage or logical terminology. There are 122 recommended standards. In addition in 'Additional Traits' there are a further 362 possible traits for inclusion that would need to be examined in further detail if deemed necessary.

1. During discussion and collation of trait names and their associated codes it became apparent that there was a need to provide more detail on each name description as well as providing additional information on how each trait was to be considered.

2. Many of the alias codes also being used throughout the industry are included for information and discussion. The green highlighted alias codes are those currently being used by Sheep Genetics that would be better changed to reflect industry usage and interpretation.

3. In addition, it is recommended that on each report being distributed where the ASID is being used that the Tag ID of the individual animal also be included for ease of breeder use.

4. Data types have been included where possible to provide a cohesive data collection. This is one of the areas where CSV files fall short in data interpretation.

5. Fat

   There is some confusion on the use of fat codes that describe the various types of fat measurements and stages and where the measurement is taken. Whilst there is some industry confusion it is clear that the vast majority use the FAT code to describe the Ultrasound measurement taken on a live sheep at the "C" site. Industry needs to agree in particular on this code.

6. Electronic IDs (EIDs):

   It is noted that the sheep industry standard for reporting EIDs is to have a space after the first three digits of the number. Example format: 891 0000000000000

   Manufacturers have been made aware of this and have made adjustments to their software to reflect this.

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Animal Information	Tag - Visual Tag Identification or animal ID	Tag ID	TAG-ID/Tag Number/ID/ Nickname	Y	USER DEFINED		AN16			
Animal Information	16 digit Australian Sheep ID used in analysis	ASID	SG ID/ID/SGID OR SG 16 DIGIT ID	Y	FORMAT AS 509999-2010-100001 (Hyphenated format)	Australian Sheep Id = Making More from Sheep Genetics p25	AN18			
Animal Information	Tattoo ID/Alternate Tag/Alias ID	TATTOO	Alt Tag/Alias	Y	USER DEFINED		AN16			
Animal Information	Electronic Identification (eg NLIS/RFID)	EID	RFID/E_ID	Y	FORMAT AS 891 0000000000000 (Sheep industry- space after first 3 digits)		N16			
Animal Information	Sire TAG/ID	Sire Tag	Sire Nickname		USER DEFINED		AN16			
Animal Information	Sire ASID (Sire 16 DIGIT ID)	Sire ASID	LPN_SRE	Y	FORMAT AS 509999-2010-100001		AN18			
Animal Information	Dam TAG/ID	Dam Tag	Dam Nickname		USER DEFINED		AN16			
Animal Information	Dam ASID (Dam 16 DIGIT ID)	Dam ASID	LPN_DAM	Y	FORMAT AS 509999-2010-100001		AN18			
Animal Information	Date of Birth	DOB	BIRTHINGDATE	Y	DD/MM/YYYY		DATE			
Animal Information	Sex	Sex		Y	REFER INPUT DATA TRAITS		AN1			
Animal Information	Conception Method/Type (AI/Nat/ET/Jiv)	CM	CMType/Conc Type/Mating Type	Y	REFER INPUT DATA TRAITS		AN2			
Animal Information	Single/Twin/Triplet/etc (No. in Birth)	BT	Birth Type/No.In Birth/Number Born	Y	REFER INPUT DATA TRAITS		AN1			
Animal Information	Rearing Type (No. Reared)	RT	REARTYPE/RS/ NUMBERREAR	Y	REFER INPUT DATA TRAITS		AN1			
Animal Information	Current Status (Active/Non Active - Dead or alive)	Status	Fate	Y	REFER INPUT DATA TRAITS	note SG use this for Class	AN1			
Animal Information	Ease of lambing scored at birth	LAMBEASE	birthease	Y	REFER INPUT DATA TRAITS		N1	SCORE	0	5
Animal Information	Status of the sheep with respect to horns i.e. horn, poll, scurs	HORNSTATUS	HORN		REFER INPUT DATA TRAITS		AN2			
Animal Information	Foster Dam TAG/ID	FOSTERDAM ASID	FOSTER/FOSTERDAM ID/FOSTER_EWE	Y	FORMAT AS 509999-2010-100001		AN16			
Animal Information	Breeder comment on this animal	COMMENT	Notes	Y	USER DEFINED		AN20			

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Animal Information	Site (Prefixed with stage codes eg.WSITE=weaning site)	SITE		Y	FORMAT		N1			
Animal Information	Management Group Name (eg. birth Group)	GROUP	GN/Mgt.Group/ MANAGEMENTGROUP / GRP_NAME	Y	USER DEFINED		AN20			
Animal Information	Subgroup (used to split main management group)	SUBGROUP		Y	Numeric 1-9		N1	NUMBER	1	9
Animal Information	Breed Name	BREED NAME	BREEDING/ breedingtype	y	REFER INPUT DATA TRAITS		AN20			
Animal Information	Breed ID/First 2 digits in ASID mimic this field	BREED ID	BREED/ breedingtype	y	REFER BREED CODES		AN2			
Animal Information	Breeder flock code/registered flock ID used in SG ID	FLOCK Number	FLOCK/FLOCK CODE	Y	Format 4 digits		N4	NUMBER	0	9999
Animal Information	Registered ID of sheep with breed society	REGDID		Y	DEFINED BY BREED SOCIETY	?	AN16			
Animal Information	Class - breeders internal assessment of animal	CLASS		Y	USER DEFINED	?	AN5			
Animal Information	Grade - recognised external grading assessment for conformity and efficiency etc	GRADE	DEST/DESTINATION/FINAL/INSPGRADE	Y	USER DEFINED/ALSO REFER INPUT DATA TRAITS STATUS	USED BY DOHNE ASSOC,ALSO TOP/ FLK/CULL AMSEA	AN			
Live Measurement	Date for live measurements/visual	DATE		Y	DD/MM/YYYY		DATE			
Live Measurement	Live Body weight	WT	LIVEWEIGHT/BWT/ BDW/BW	Y	OM		N	kg	1	130
Live Measurement	Scrotal Circumference (mm)	SC	SCIRC	Y	OM	in mm NOT cm	N	mm	15	59
Live Measurement	Count of testicles in ram	TESTICLES	TESTES	Y	0,1 OR 2		N	NUMBER	0	2
Live Measurement	Ultrasound Fat Depth measurement at 'C' site of the live animal	FAT	FAT/CF/CFAT, scanfat	Y		contradictions, 'FAT' is the most used by breeders & AMSEA	N	mm	0.1	30
Live Measurement	Ultrasound Eye Muscle depth	EMD	EYE/EMUSCLE	Y	OM		N	mm	11	59
Live Measurement	Eye Muscle width	EMW		Y	OM		N	mm		
Live Measurement	Eye Muscle area	EMA			OM -Stockscan		N	mm		
Parasite Measurement	Worm Egg Count (Nemetodirus)	WECN	FECN/FEC_NEM	Y	OM		N	eggs/gram	0	9999
Parasite Measurement	Worm Egg Count (Strongyle is default)	WEC	FEC	Y	OM		N	eggs/gram	0	9999

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Parasite Measurement	Worm Egg Count (Strongyle)	WECS	WECST/FECST/ FEC_STR	Y	OM		N	eggs/gram	0	9999
Activity	Activity Date/Visual/Test Event Date	Date	DDMM	Y	DD/MM/YYYY	CHECK	DATE			
Activity	Activity	Activity			REFER INPUT DATA TRAITS	eg. flc testing = OFDA/Laser, Midside/Pinbone sample	AN			
Activity	Activity Observer/Operator/Name of Lab	Operator			USER DEFINED		AN			
Fleece	Date of Fleece test/event	FDATE	FLEECEDATE/ddmm	Y	DD/MM/YYYY	duplication event date	DATE			
Fleece	Greasy Fleece Weight - whole fleece wt (including belly)in kg prior to skirting	GFW	FW	Y	OM		N - 1 decimal	kg	0.5	11
Fleece	Yield % - Washing yield @ 16% regain	YLD	YIELD/YLDSCD	Y	OM		N - 1 decimal	%	40	95
Fleece	Clean Fleece Weight (CFW=GFWxYLD/100)	CFW		Y	OM		N - 1 decimal	kg	0.5	9
Fleece	Clean Fleece Weight Percentage	CFW%			OM		N	%		
Fleece	Mean Micron/Fibre Diameter	FD	MIC/MICRON/MFD/ f/d	Y	OM		N - 1 decimal	um	1	40
Fleece	Deviation from tested Group's average micron	FDDEV	DEV/MD/ MDEV/ Micron Deviation		OM		N - 1 decimal	deviation		
Fleece	Coefficient of variation of Fibre Diameter	FDCV	CV/CVD	Y	OM		N - 1 decimal	%	10	35
Fleece	Standard deviation of Fibre Diameter	FDSD	SD	Y	OM		N - 1 decimal	um	0	50
Fleece	Fleece sample Comfort Factor % fibres finer than 30 microns	FCF	Comfort/COMF.FACTOR/CF/FDCF	Y	OM		N - 1 decimal	%	80	100
Fleece	Course Edge of Micron - difference in microns between mean FD & broadest 5% of fibres	CEM	CEDGE/CEM/FDCE	Y	OM		N - 1 decimal	microns	1	40
Fleece	Fibre Curvature - mean measure of crimp reported as degrees/mm	CURV	CURVE/CRV/FDCR	Y	OM		N	Degrees/mm	0	200

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Fleece	Standard deviation of Curvature measured in degrees/mm	CURVESD	SDCURV/curvsd/ Curvature SD	Y	OM		N	Degrees/mm	0	200
Fleece	Spinning Fineness	FDSF	SPINFINE, S/FINENESS,SPIN	Y	OM		N - 1 decimal	um	1	40
Fleece	Mean Staple Length (mm)	SL	Staple Len/WLEN/SLEN/L	Y	OM		N - 1 decimal	mm	1	200
Fleece	Mean Staple Strength (Newtons per kilotex)	SS	Staple Str/SSTR	Y	OM		N - 1 decimal	N/ktex	1	95
Carcase	Carcase measurement/kill date	CDATE		Y	DD/MM/YYYY		DATE	date		
Carcase	Carcase/kill weight	CWT	DEATHWT		OM		N	kg		
Carcase	Carcase measured fat depth SCORE	CFATSCORE	CFAT	y	OM		N	SCORE	1	
Carcase	Fat Depth C on carcase	CCF	CCFAT/CFAT	Y	OM		N	?		
Carcase	Carcase eye muscle depth OF MEAT	CEMD		Y	OM		N	mm	11	59
Carcase	Carcase eye muscle width MEASUREMENT	CEMW		Y	OM		N	?		
Carcase	Fat tissue depth measured in mm at GR site of carcase	CGRT	GRF/CFAT		OM		N	mm	5	30
Visual	Bare Breech area (Scored in reverse to BRCOV)	BBA	BRBA	Y	REFER INPUT DATA TRAITS		N	SCORE	1	?
Visual	Breech cover (scored in reverse to BBA)	BRCOV	BCOV	Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Breech Wrinkle	BRWR	BWR (obsolete)	Y	REFER INPUT DATA TRAITS	BWR obsolete	N	SCORE	1	5
Visual	Body Wrinkle score	BDWR	BWR/BODYWRINKLE	Y	REFER INPUT DATA TRAITS	BWR not used - too confusing with breech score but still option with SG.	N	SCORE	1	5
Visual	Breeder comment relating to teats	TEATS		Y	USER DEFINED		AN			
Visual	Condition Score (eg. Ewe score prejoining etc)	CS	CONDITION	Y	REFER INPUT DATA TRAITS		N1.1	SCORE	1	5
Visual	Fat Score (eg. Visual assessment in yards)	FS	FAT SCORE		SCORE		N	SCORE	1	5
Visual	Crutch Cover	CCOV		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Dag score	DAG		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Dust penetration	DUST		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Face Cover Score	FACE	FACECOVER	Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Feet	FEET		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Visual	Fleece Rot	FLROT	FROT/FR/FLEECEROT	Y	REFER INPUT DATA TRAITS		N	SCORE	0	5
Visual	Legs	LEGS		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Mulesing status score (Y if mulesed, N if not)	MULESED	MULESSTAT/MULES	Y	REFER INPUT DATA TRAITS		AN	SCORE		
Visual	Random Black Spot Recording taken at marking	SPOT		Y	REFER INPUT DATA TRAITS		N	SCORE	0	5
Visual	Recessive black on lamb recorded at marking	BLK	MBLK	Y	REFER INPUT DATA TRAITS		N	SCORE	0	5
Visual	Skin Pigmentation (non wool area)	SPIG	Non fibre pigment	Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Staple Structure	SSTRC		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Staple Weathering	WEATH		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Urine Stain Score	URINE	STAIN	Y	REFER INPUT DATA TRAITS		N	SCORE		
visual	Visual trait scorer (if more than one)	SCORER		Y	USER DEFINED	DUP? COULD BE UNDER ACTIVITY NAME OF OPERATOR	AN20			
Visual	Wool Character	CHAR		Y	REFER INPUT DATA TRAITS		N	SCORE	1	5
Visual	Wool Colour visually assessed	WCOL	COL/WCOLOUR	Y	REFER INPUT DATA TRAITS	COL code is confusing and conflicting with other colour codes	N	SCORE	1	5
Visual	Wool Cover on Points (AMSEA)	COVER			REFER INPUT DATA TRAITS		N	SCORE		
Visual	Wool Dermatitis	DERMO			REFER INPUT DATA TRAITS		N	SCORE	1	5
Joining	Joining Group - Contemporary group of ewe being joined	JOININGGROUP	MATEGROUP	Y	Alphanumeric - USER DEFINED		AN20			
Joining	Sub-group of ewe being joined	JOININGSUBGROUP	MATESUBGROUP	Y	Numeric 1-9	Not in xml now?	N	NUMBER	1	9
Joining	Dam joined	DAMJOINED		Y	USER DEFINED		AN16			

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
Joining	ASID of EWE being joined	DAMJOINED ASID	MATEEWEID	Y	FORMAT AS 509999-2010-100001		AN18			
Joining	Sire joined	SIREJOINED		Y	USER DEFINED		AN16			
Joining	ASID of sire being used for first joining	SIREJOINED ASID	MATESIRE	Y	FORMAT AS 509999-2010-100001		AN18			
Joining	Syndicate member- ASID of individual ram/s used in Syndicate	MEMBER	SYND_MEMBER	Y	FORMAT AS 509999-2010-100001 - WITH YEAR DATE 1 YEAR PRIOR TO LAMBING		AN18			
Joining	Syndicate name of group of rams	SYNDICATEID	Syn/Syndicate/	Y	FORMAT AS 509999-2010-100001		AN18			
Joining	Joining method (conception type)	JOINMETHOD	MATEMETHOD/ Mateeventcode/ jointype/ccmm/ matetype	Y	REFER INPUT DATA TRAITS CM		AN2			
Joining	Date Joined-naturally or by AI	DATE JOINED	RAMINDATE/ MATEDATE/CDDMM/ Conception Date	Y	DD/MM/YYYY	date joined and ramindate are same	DATE			
Joining	Date sire out of paddock	RAMOUTDATE	OUTDATE	Y	DD/MM/YYYY		DATE			
Joining	Backup Sire Tag/ID	backupsire		Y	USER DEFINED		AN16			
Joining	Backup Sire ASID	Backupsire ASID			FORMAT AS 509999-2010-100001		AN18			
Joining	Date backup sire in date	backindate		Y	DD/MM/YYYY		DATE			
Joining	Date backup sire out date	backoutdate		Y	DD/MM/YYYY		DATE			
Joining	Date embryo transferred	TRANSDATE		y	DD/MM/YYYY	duplication	DATE			
Joining	List of all recip ewes in the ET program	EMBRYOTRANSFERS		Y	FORMAT?	HOW? FORMAT? SG request	AN???			
Joining	Recipient ewe Tag (when ET being used)	RECIP TAGID	RECIP/RECIP_ID	Y	USER DEFINED		AN16			
Joining	Recipient ewe ASID (when ET being used)	RECIP ASID	RECIP/RECIP_ID	Y	FORMAT AS 509999-2010-100001		AN18			
Joining	Prejoin Date	PREJOINDATE	PJDATE	Y	DD/MM/YYYY		DATE			
Joining	Did this ewe receive supplementary feed after being scanned as carrying multiple lambs?	FEEDMULT		Y	Y/N / 0-1		AN1			
Joining	Prejoin Condition score of ewe	PREJOINCONDSCORE	PJCONDSCORE	Y	SCORE		N - 1 decimal	SCORE	1	5
Joining	Prejoin ewe body weight	PREJOINEWEWT	PJEWEWT	Y	OM	SHOULD BE IN BODYWEIGHT COLLECTION AREA?	N - 1 decimal	KG		
Joining	Whether fertility treatment given prior to nat joining	NATPHARM		Y	Y/N / 0-1?	What is the input for this field?	?			

TYPE	STANDARD DESCRIPTION	RECOMMENDED TRAIT CODE (ABBREVIATION)	CODE ALIASES	XML	RECOMMENDED DATA INPUT/FIELD TYPE	CHECK/REASON	FORMAT	UNIT	LOWER	UPPER
PREGSCAN	Preg scanning date	SCANDATE		Y	DD/MM/YYYY		DATE			
PREGSCAN	Preg scanning group	SCANGROUP		y	USER DEFINED		AN20			
PREGSCAN	Preg scanning operator (if more than one)	SCANOP		y	USER DEFINED		AN20			
PREGSCAN	Preg scan -when recording multiple lambs	SCANMULTIPLE	MULTIPLE/SCAN	Y	1, 2 or 3 OR MORE		N1	SCORE	0	9
PREGSCAN	Preg Ultrasound or Udder scored in race prior to lambing (pregnant or empty)	SCANWETDRY	PREGSCAN/ WETDRYRESULT/ SCAN/pregstatus/ WETDRY/YESNO	Y	W or D		AN1			
WET/DRY	Udder score date at time of weaning	WEANWETDRYDATE		Y	DD/MM/YYYY		DATE			
WET/DRY	Udder scoring at time of weaning ie. Ewes that are lactating or recorded as dry (by udder scoring) when lambs are weaned/have not reared a lamb	WEANWETDRY		Y	W or D		AN1			
JOINING OUTCOME	SG id of lambs from this mating (see progeny)		OUTCOMEID			superfluous-Id of lamb that can be cross-referenced to pedigree later on				
JOINING OUTCOME	Status of lamb - did it survive?		OUTCOMEREARED			Superfluous-Was the lamb reared or died?				
JOINING OUTCOME	Outcome - Date of lamb born in mating module		OUTCOMEDATE			superfluous- duplication of pedigree data				
Note:	There are another 374 codes that have been eliminated from this list as not currently being used as universal code language – summary attached in Additional Traits.									

AGE STAGE CODES

The age stage codes are used to determine at what point the data is to be analysed in Sheep Genetics. The age stage codes are used as a prefix to each of the trait codes so differentiate the age measurement analysis data.

There have been some new stage codes added to the industry standard of age stage codes, in particular, the additional adult age stages. As well there is now a marking stage used to record mostly visual traits.

Note: The number of days for each stage needs to be confirmed again as there are conflicting stage days in existing documentation.

STAGE CODES	AGE STAGE DESCRIPTION	NOTES
B	Birth	birth - 24 hours
M	Marking	
W	Weaning	42 - 120 days (6-16 weeks)
E	Early post weaning	120 - 210 days (4 – 7 months)
P	Post weaning	210 - 300 days (7 – 10 months)
Y	Yearling	300 - 400 days (10 – 13 months)
H	Hogget	400 - 540 days (13 – 18 months)
C	Carcase	
A	Adult	2 YEAR OLD 540 - 915 days
A3	Adult - 3rd score/measurement	3 YEAR OLD 910 - 1280 days
A4	Adult - 4th score/measurement	4 YEAR OLD 1275 - 1645 days
A5	Adult - 5th score/measurement	5 YEAR OLD 1640 - 2110 days

STANDARD FILE FORMATS

The across-industry standard file format for the transfer of data for many years has been a comma delimited (CSV) file format. This standard file format still exists and also continues to be used extensively in the sheep industry. It is recommended that it remains as a recognised and recommended format for transfer of data.

In addition, the database (DBF) file format has been used for many years as a sound file process for saving and transferring data. Unfortunately Microsoft has deleted this from their newer versions of software as a format creating an issue in industries that relied on using this form. Sheep Genetics currently accept and send out their data analysis in a DBF format but cannot be re-saved using Microsoft software unless older versions of software are being used.

As a result of newer technology options, the new Microsoft XML format is replacing many forms of file formats and has been identified as the preferred method in future developments, both at Sheep Genetics and in the wider sheep industry – as an example, with Gallagher and Trutest developments – however the development process has taken longer than many expected and will still be some time before it is fully adopted.

It is recommended that as these changes occur that the recommended transfer file format be XML across the industry. It is recognised that this may take some time for the process to filter through the industry. Several sheep software providers are now working towards providing this support file structure.

DATA DICTIONARY – GLOSSARY OF TERMS

For some time, the acronyms and descriptions used to describe a particular feature of the sheep industry or a trait has been growing with much confusion at times over what is actually being described.

This glossary is an attempt to commence a data dictionary that can be built upon for the sheep industry use and for those who are trying to understand the meanings used. This list is not exhaustive - there are gaps and perhaps differing views on the dictionary terms and it is hoped that amendments and additions can be made over a period of time. Refer also to the recommended trait names and codes.

Term/Acronym	Description	source
µm	symbol used for micron (micrometre)	SG
Accuracy	A measure of the closeness of a test result to the true value. The difference between accuracy and precision should be noted. See also bias, precision, confidence limits	AWTA
Across-breed	Comparison of sheep across different breeds within a breed group	SG
Across-flock	Comparison of sheep across different flocks within a breed group	SG
AGBU	Organisation - Animal Genetics and Breeding Unit	
Age Stages	A definition of stages of animal in age groupings used to calculated ebvs. (eg. Birth, weaning, yearling, adult)	
AI	Artificial insemination	
Airflow	A method of measuring the mean fibre diameter of a sample of wool in which a test specimen (a measured mass of the scoured, dried and carded sample), after exposure to a conditioning atmosphere, is compressed to a fixed volume and a current of air is passed through it. The rate of flow is then adjusted so that the pressure drop across the sample equals a predetermined value. The rate of flow is an indicator of the mean fibre diameter of the wool in the sample. The instrument is calibrated to international standard wool tops of known fineness.	AWTA
AMSEA	Organisation - Australian Merino Sire Evaluation Association	
ASBV	Australian Sheep Breeding Values - genetic breeding value produced by Sheep Genetics for a given analysis across-flock	SG
ASID	Australian sheep identification system - unique 16 digit ID	SG - Making More from Sheep Genetics
ATLAS	Automatic Tester of Length and Strength - a computer controlled instrument with measures the staple length, staple strength and position of break of individual samples.	AWTA
AWEX	Organisation - Australian Wool Exchange	
AWI	Organisation - Australian Wool Innovation	
AWTA	Organisation - Australian Wool Testing Authority	
Bias	a constant or systematic difference between a true value and corresponding test results	AWTA
BLUP	Best linear unbiased prediction - a statistical method used to calculate estimated breeding values such as ASBVs, FBVs & EBVs	
Body Wrinkle	Quantity and quality of wrinkle on the body with 1 being very little wrinkle and 5 the most	AMSEA
Breed Group	Defines Sheep under recognised industry breeding outcomes - eg. Merino, Terminal, Maternal breed groups	
Breeding	Goals of the breeding program using a combination of traits to be recorded	SG

Objective	and selected to assist in performance goals	
Term/Acronym	Description	source
BWFW	Acronym for Bred Well Fed Well Education/Extension Program	
Character	a subjectively assessed characteristic of greasy wool related to crimp and staple definition	AWTA
Clean fleece weight (CFW)	The clean fleece weight of the fleece measured in kg and calculated by multiplying the greasy fleece weight by the yield % divided by 100	AMSEA
Coarse Edge of FD Percentage (CEM%)	Percentage of microns 10 microns above the mean	AWTA Glossary of Terms
Coarse Edge of micron (CEM)	Fibre Diameter Coarse Edge is the difference in microns between the mean diameter and the broadest 5 percent of fibres	AWTA Glossary of Terms
Coefficient of variation	A statistical measure for the variation within a range of values. It expresses the standard deviation as a percentage of the mean. The higher the CV, the greater the variability. (An example of calculating CV is FDCV = SDx100%/FD)	AWTA Glossary of Terms
Colour	(a) In fleece at scouring - the fleece colour is the unscourable colour portion of the fleece as measured by AWTA standard for yellowness. (b) Also used as a term to describe the visual colour appearance of a fleece on the actual sheep. (c) a term also used to describe the colour of the actual sheep - eg. black, white, coloured	AWTA/AMSEA/et al
Comfort Factor (FCF)	AWTA Glossary of Terms - percentage of fibres finer than 30 microns in a sample (100% is the optimum level for against skin wool apparel)	AWTA Glossary of Terms/MG
Counts	Visual method of grouping wool types, common amongst wool buyers prior to objective measurement eg. 64's/66's/70	
Crimp	The waviness of a fibre, expressed numerically as the number of complete waves per unit length; crimp is usually taken as an indicator of mean fibre diameter, the higher the number of crimps per unit length, the finer the wool.	AWTA
Crimp definition	the degree of alignment of the crimp waves within a staple	AWTA
Crimp frequency	the number of crimp waves per centimetre of staple length (see also curvature)	AWTA
Curvature	a measure of crimp reported as degrees/mm (see also crimp)	AWTA/WIEDPUG
Dark & Medullated Fibre Risk	Risk factor assessed based on wool being contaminated with shedding animals (goats/dorpers etc)	AWTA/AWEX
Dehorned	Where the horn has been removed leaving little or no protrusion of horn from the skull	Ausmeat National Livestock Language
Dentition	Score based on the number of incisor teeth present in the sheep	Ausmeat National Livestock Language
Dermatitis	A distortion of the fleece, often when an animal is unwell, that creates an often hard substance on the skin and in the wool. Devalues fleece value. (Slang version of dermatitis is 'DERMO'.	** needs definition fixing
DR%	Dressing percentage as describing carcass	MLA
EBV	Estimated breeding value using BLUP method	SG
EMD	Eye muscle depth - usually measured by ultrasound	
EMW	Eye muscle width	
ET	Embryo Transfer	
Face Cover	The amount of wool cover on face with 1 being very open and 5 being very muffled	AMSEA
FAT	Different types of Fat are visually assessed, scored by ultrasound technology or measured - there are several sites on the sheep where this is performed at both liveweight and carcass. Measured usually at the 'C' site and 'GR' site.	
FBV	Flock Estimated breeding value using BLUP method - terminology used by Sheep Genetics where data does not meet requirements to produce an ASBV, eg. Not full pedigree	
FEC	Faecal (worm) egg count (see also WEC)	

Term/Acronym	Description	source
Fibre diameter	Fibre diameter, usually described as FD or Micron, is the thickness of individual fibres; it is customary to quote an average value (mean FD) in micrometres.	AWTA/mg
Fibre less than 15 (FIBR<15)	It is the percentage of fibres less than 15 microns in the sample tested	AWTA Glossary of Terms
Fleece rot	The degree of fleece rot present on the fleece with 0 being no fleece rot and 5 being a high level of fleece rot	AMSEA
GE	Genetic evaluation	AGBU
GEBV	Genomic prediction of EBV	AGBU
Generation interval	The time interval between generations, defined as the average age of parents when their progeny are born	SG
Genetic correlation	The genetic relationships that exist between traits	SG
Genetic linkage	When two or more flocks share common genes	SG
Genomics	Study (research) of genes - in current sheep research -finding/identifying DNA markers for particular genetic traits	
Genotype	A combination of the genes of the sheep	SG
GR site	110mm from the centre of the spine at the last long rib	SG
Greasy fleece weight (GFW)	The weight in kg of the whole fleece (including belly) prior to skirting	AMSEA
Hauteur	The average of the length-biased distribution of fibre length in a top. It is obtained by sorting a sample of the sliver into length classes and calculating the average of the number of fibres of each length class. Hauteur is usually regarded as a numerical average although this assumes no relationship between fibre length and fibre diameter. An important measure for wool buyers in making up wool consignment lots.	AWTA/mg
Heritability	The average proportion of the difference between sheep (after adjusting for known non-genetic influences) that can be passed on to their progeny through their genes	SG/MG
Horned	Where the horn(s) is/are either intact or partially removed	Ausmeat National Livestock Language
IMF	Intra muscular fat - determines flavour & juiciness - an IMF breeding value should be positive to indicate good IMF	AGBU
Index	Breeding value shown as a % of the group being considered when particular traits are weighted to meet a breeding objective	
Index - DP+	Dual purpose plus breeding objective - sheep breeding value/ traits contribution to economic gain based on meat focussed production system where surplus progeny are sold as lambs & a portion of ewes are joined to terminal sires. High increase in carcass traits & fleece weight, moderate increase in reproduction, fibre diameter maintained, maintain/small increase in staple strength.	AMSEA
Index - Fine 20%+SS	Fine 20% index plus Staple Strength breeding objective - sheep breeding value/ traits contribution to economic gain based on a high emphasis on fibre diameter and staple strength. There is adequate emphasis on other traits to maintain performance except of moderate reduction in reproduction (Number of lambs weaned NLW).	AMSEA
Index - FP+	Fibre Production plus breeding objective - sheep breeding value/ traits contribution to economic gain based on a wool focussed wool production system where wethers are retained, operating in an environment where worms cause economic losses. Large reduction in fibre diameter, large increase in staple strength, moderate reduction in WEC, small increase in fleece weight. Little change in carcass traits and reproduction.	AMSEA
Index MP+	Merino Production plus breeding objective - sheep breeding value/ traits contribution to economic gain based on balanced meat & wool production system where surplus progeny are sold as hoggets. Moderate increase in fleece weight, staple strength, carcass traits & reproduction, moderate reduction in fibre diameter.	AMSEA

Term/Acronym	Description	source
INF (INF Flock/CRC INF)	Reference population or Reference Flock - as described in research programs	AGBU
IWTO	Organisation - International Wool Textile Organisation	
Joining	Terminology used in sheep industry (particularly in Merino breeding) to describe the process of mating selection	
kilotex (ktex)	The linear density of a staple expressed in grams per metre. It is the unit of thickness used in calculating staple strength for which the unit is Newtons per kiloton	AWTA
LAMBPLAN	Brand and reporting name for Sheep Genetics Analysis & Marketing for Terminal & Maternal sheep breeds	SG
Laserscan	an instrument that detects shadows of fibre snippets in a laser beam as they are carried in solution through the beam, developed for improved performance in measuring Mean Fibre diameter and fineness distribution	AWTA
LMY	Lean meat yield	AGBU
LTEM	Life time Ewe Management (usually referring to Ewe management extension program offered to sheep breeders)	MLA
Marble	The amount of marble (intramuscular fat) in the meat to retain flavour and tenderness - see also IMF	
Maternal weaning weight	data not submitted but units reported in kg	SG
Maximum Fibre Diameter	Maximum fibre diameter measured in microns of fibres tested	AWTA Glossary of Terms
Mean	arithmetic average; the mean of a set of values is calculated by dividing the sum of those values by the number of them	AWTA
Medullated Fibre	hair found in fleece wool (usually from sheep that shed hair/dogs/etc	
Merino Superior Sires (MSS)	Merino Superior Sires - sire evaluation publications undertaken by the Australian Merino Sire Evaluation Association	
MERINOSELECT	Brand and reporting name for Sheep Genetics Analysis & Marketing for Merino sheep breeds	SG
Micron	Derived from micrometre - a unit of length measurement equal to one millionth of the metre, it is the unit of measurement for fibre diameter of wool. The result is commonly called a micron. The symbol 'µm' is used for micrometre. (See also Fibre Diameter)	AWTA/SG
Micron deviation	Deviation from the tested Group's average micron	
mid-side sample	In wool - a shorn wool sample of approximately 30 grams taken from the mid-side of a sheep	AWTA
Minimum Fibre Diameter	Minimum fibre diameter measured in microns of fibres tested	AWTA Glossary of Terms
MLA	Organisation - Meat & Livestock Australia	
MSS	Merino Super Sires - publication of results from AMSEA	
NEFT	Fleece Testing business - New England Fibre Testers	
Nemesis	Research undertaken to understand genetics of sheep worm resistance, results being used in industry to breed for low WEC	
Newton	the unit of force in the SI system; a force of one kilogram is equivalent to about 9.8 newton (N)	AWTA
NLB	Ratio of number of lambs born to number of ewes joined	SG
NLW	Ratio of number of lambs weaned to number of ewes joined	SG
Noil	In wool - the short fibres removed during the combing process; it comprises second cuts, pieces of broken fibres, neps, and is contaminated by small pieces of vegetable matter	AWTA
Objective measurement (OM)	a system in which the characteristics of greasy wool (or other factors) are specified by measurement rather than by descriptive terms resulting from subjective appraisal	AWTA/MG
OFDA	Optical Fibre Distribution Analyser - an instrument for measuring fibre diameter mean and distribution using automated microscope and image analysis techniques	AWTA
OVIS	Name of the BLUP software used to calculate breeding values	SG

Term/Acronym	Description	source
Percentile Bands	A set of figures that show the range from the top to bottom figures in a group to allow you to make comparisons of where you sit in the range	
Phenotype	Observable performance of a sheep trait that can be measured or scored (eg. Dag)	SG/MG
Poll	Where the sheep is hornless (polled) as a genetic attribute (may show some evidence of scurs)	Ausmeat National Livestock Language
Position/point of break (PoB)	An indication of where a staple breaks during extension (under exertion), determined by comparing the masses of clean wool in the broken portions of the staple. It does not imply that a (natural) break exists in the staple. Measured for base, mid and tip staple points of break as a %.	AWTA/MG
Precision	an indicator of the repeatability of a measurement; it is often expressed in terms of confidence limits (See also accuracy)	AWTA
Prickle Factor	Percentage of fibres stronger that 30 microns in the sample. NOTE: This terminology and calculation has been superseded and should no longer be used - it is now replaced with Comfort Factor which is the comfort factor of wool fibres felt against the skin of less than 30 microns.	MG
Progeny test	Progeny from randomly mated ewes/sires run under identical conditions to obtain an unbiased comparison of sires through their progeny	SG/MG
RBV	Research breeding value (sometimes reported as ASBVR)	AGBU/MLA/SG
Recessive Black gene		
Regain	the mass of moisture in a mass of textile fibres determined under prescribed conditions, expressed as a percentage of the clean over-dry mass of fibre. Most wool is traded on the basis of its mass at regains specified by IWTO regulations	AWTA
RWT	Fleece Testing business - Riverina Wool Testers	
Schlumberger Yield	Schlumberger dry combing fleece yield - Fleece Yield as calculated by Schlumberger Combed Dry (1 percent TFM)	AWTA Glossary of Terms
Scored Traits	See visual traits	SG
Scurs	Scurs - where there is evidence of some small part of the horn forming	
Selection criteria	Traits (and data) used in an evaluation for a particular breeding objective	SG/MG
Service sires (SS)	In research this term is used to describe the rams that are being used in a joining program. In research this abbreviation is used for 'service sires', in fleece descriptions it is used to abbreviate staple strength	AGBU
SF (SF1-5)	Shear force score (1 is good/5 is bad) to describe tenderness of meat	AGBU
SG	Organisation - Sheep Genetics	
Shearforce (SF)	A test undertaken on the carcase to that describes the amount of pressure required to determine the tenderness of the meat, measured 1 - 5 and at cooking as well	
SNP Chips	A description of the various components of genes identified in genomics program	AGBU
Spinning fineness	Spinning Fineness is a number which attempts to combine the Mean Fibre Diameter (FD) and the Coefficient of Variation of Diameter (FDCV) into a single measure of fineness to estimate the performance of wool when it is spun into yarn	AWTA Glossary of Terms
Standard deviation (SD)	A measure of dispersion of individual results. Standard deviation is expressed in the units of measurement. (See also variance and coefficient of variation)	AWTA
Staple	A well-defined bundle of fibres which has been removed from a mass of greasy wool as a unit. In staple length and staple strength measurement, staples are considered to include second cuts	AWTA
Staple length	the length of a staple projected along its axis obtained by measuring the staple without stretching or disturbing the crimp of the fibres	AWTA
Staple strength (SS)	The maximum force required to rupture a staple per unit of average linear density. Described as a measure of newtons per kilotex (See also ATLAS)	AWTA
Suint	water soluble component (sweat) extruded from the wool follicles	AWTA

Term/Acronym	Description	source
Tender wool	wool for which a significant proportion of staples exhibit a marked weakness, at corresponding points in all the fibre of the staples	AWTA
Test house	A laboratory which carries out fleece tests in accordance with the current IWTO test methods and regulations. In order to issue IWTO Test Certificates, the laboratory must be a licensed laboratory	AWTA
TGRM	Total Genetic Resource Management - computer software used to optimise genetic gain and inbreeding - used to help make optimal joining selections	SG
Trait codes	A set of trait codes used to describe the various traits collected for analysis	
Trait Leaders	A list of animals, usually top sires and young rams, ranked as leaders for key production traits.	SG
Trait stages	A set of stages set by age of animal into which it is grouped for analysis.	
Variance	The variance of a sample is the square of the standard deviation and is a measure of the distribution of values around the mean. It is expressed in the units of measurement squared	AWTA
Vegetable matter (VM)	burrs (including hard heads), twigs, seeds, leaves and grasses present in wool	AWTA
Visual Traits	Traits of a sheep that are visually assessed - and usually are difficult/too expensive/or cannot be scientifically measured	
WEC	Worm egg count (see also FEC)	
WIEDPUG	Organisation - Wool Industry EDP User Group	
Within Flock	Comparison of sheep within the flock in which it is living – ie. Not compared to other flocks or using linkages from other flocks.	
Wool Appraisal	an estimate of the value-determining characteristics of a parcel of wool, based on subjective judgement but sometimes assisted by objective measurement	AWTA
Yield	The amount of clean fibre, at a standard regain (calculated by IWTO Scoured Yield at 16 percent Regain) that is expected to be produced when a delivery of raw wool is processed. The yield may be expressed both as a clean mass in kilograms and as a percentage of the mass of raw wool prior to processing. (See also Schlumberger Yield)	AWTA

ADDITIONAL TRAIT CODES

Description	Code	Notes	Type
Copper (dry)	COPPERDRY		?
Copper (wet)	COPPERWET		?
Death Age (days)	DEATHAGE		?
EPADHA	EPADHA		?
EPADPADHA	EPADPADHA		?
C8:0 mg/100g	FA_C08_0		?
C10:0 mg/100g	FA_C10_0		?
C11:0 mg/100g	FA_C11_0		?
C12:0 mg/100g	FA_C12_0		?
C13:0 mg/100g	FA_C13_0		?
C14:0 mg/100g	FA_C14_0		?
C14:1n5 mg/100g	FA_C14_1n5		?
C15:0 mg/100g	FA_C15_0		?
C15:1 mg/100g	FA_C15_1		?
C16:0 mg/100g	FA_C16_0		?
C16:1n7 mg/100g	FA_C16_1n7		?
C17:0 mg/100g	FA_C17_0		?
C17:1 mg/100g	FA_C17_1		?
C18:0 mg/100g	FA_C18_0		?
C18:1 cis+trans mg/100g	FA_C18_1CT		?
C18:2n6 mg/100g	FA_C18_2n6		?
C18:2 trans 9 mg/100g	FA_C18_2T9		?
C18:3n3 mg/100g	FA_C18_3n3		?
C18:3n6 mg/100g	FA_C18_3n6		?
C18:4n3 mg/100g #	FA_C18_4n3		?
C20:0 mg/100g	FA_C20_0		?
C20:1n9 mg/100g	FA_C20_1n9		?
C20:2 mg/100g	FA_C20_2		?
C20:3n3 mg/100g	FA_C20_3n3		?
C20:3n6 mg/100g	FA_C20_3n6		?
C20:4n6 mg/100g	FA_C20_4n6		?
C20:5n3 mg/100g	FA_C20_5n3		?
C21:0 mg/100g	FA_C21_0		?
C22:0 mg/100g	FA_C22_0		?
C22:1n9 mg/100g	FA_C22_1n9		?
C22:2 mg/100g	FA_C22_2		?
C22:4n6 mg/100g #	FA_C22_4n6		?
C22:5n3 mg/100g #	FA_C22_5n3		?
C22:6n3 mg/100g	FA_C22_6n3		?
C23:0 mg/100g	FA_C23_0		?
C24:0 mg/100g	FA_C24_0		?
C24:1 mg/100g	FA_C24_1		?
Iron (dry)	IRONDRY		?
Iron (wet)	IRONWET		?
Ratio MYOGLOBIN:PROTEIN	MYO_PROTEIN		?
Protein	PROTEIN		?

Description	Code	Notes	Type
Wool Calcium mg/kg	WOOL_Ca		?
Wool Chromium mg/kg	WOOL_Cr		?
Wool Copper mg/kg	WOOL_Cu		?
Wool Iron mg/kg	WOOL_Fe		?
Wool Magnesium mg/kg	WOOL_Mg		?
Wool Manganese mg/kg	WOOL_Mn		?
Wool Nickel mg/kg	WOOL_Ni		?
Wool Sulphur mg/kg	WOOL_S		?
Wool Zinc mg/kg	WOOL_Zn		?
Zinc (dry)	ZINCDRY		?
Zinc (wet)	ZINCWET		?
Age of puberty	AOP		Animal Information
Date of puberty	DOP		Animal Information
Age Stage	STAGE	AGE STAGE	Animal Information
Tail status score	TAILSTATUS	docked or intact	Animal Information
Median live weight (MEDLWT)	MEDLWT	sapien	Animal Measurement
Off shears Body Weight	OSWT		Animal Measurement
Lab that measured WEC/Flc/etc		LAB ID	Animal Measurement
Fat depth measured in mm at the GR site of the live animal	GRFAT	FAT	Animal Measurement - Live
Rib Site	Rib Site		Animal Measurement - Live
Faecal Consistency Score (Faecal Moisture)	FMOIST		Animal Parasite Measurement
Transformed FEC (std deviation)	TFEC		Animal Parasite Measurement
Worm Egg Count (Homoncus)	WECH	FEC_HOM	Animal Parasite Measurement
Calculated flight speed	FSPEED		Behavioural
Flight Time	FT		Behavioural
Abattoir name	ABATTOIR		Carcase
Assessor Name	ASSESSOR		Carcase
Leg bone weight	BONE		Carcase
Carcass Length Full	CARCASSLENGTHFULL		Carcase
Carcass length loin	CARCASSLENGTHLOIN		Carcase
CARLA measurement	CARLA		Carcase
CARLA monitor	CARLAMONITOR		Carcase
Eye muscle area	CEMA		Carcase
Fat Depth 5th rib	CFAT5		Carcase
AUS-MEAT fat class	CFATSCORE		Carcase

Description	Code	Notes	Type
Fresh colour b*	CFb		Carcase
Fresh colour L*	CFL		Carcase
Compression	COMPRESSION		Carcase
Crown to Rump length	CROWNRUMP		Carcase
carcase scan	CSCAN		Carcase
Wool density on skin	DEN		Carcase
Fatty acid lab	FA_LAB		Carcase
Fat Metabolised (Heart) Y/N	FATMETH		carcase
Fat Metabolised (Kidney) Y/N	FATMETK		carcase
Overnight fasted weight	FPSWT		Carcase
Fat Score	FS		Carcase
Carcass will be fully phenotyped (Y/N)	FULLCARCASS		Carcase
Glycogen	GLYCOGEN		Carcase
Half weight of aitch bone	HBONE		Carcase
Hot Standard Carcase Weight (HSCW) Defined as the weight of the carcase within 2 hours of slaughter, with no deduction for shrinkage and once the head, thick skirt, kidney fat and channel fat have been removed	HCWT	HSCW/CWT/WEIGHTSCR	Carcase
Fat depth GR	HGRFAT		Carcase
Snap hook no	HOOKN		Carcase
ICDH	ICDH		Carcase
ICDH Activity	ICDHACTIVITY		Carcase
ICDH protein	ICDHPROTEIN		Carcase
IGF-1 result	IGF1		Carcase
IGF-1 Lab sample number	IGF1_LABNUMBER		Carcase
IGF-1 plate number	IGF1_PLATE		Carcase
IGF-1 test date	IGF1_TESTDATE		Carcase
Intramuscular fat	IMF		Carcase
Femur and tibia with tip attached Achilles tendon removed	LEGBONE		Carcase
Loin fat weight	LLFAT		Carcase
Loin weight	LLWT		Carcase
M_SCORE	M_SCORE		Carcase
Myoglobin	MYOGLOBIN		Carcase
1st pH measure	PH1		Carcase
pH decline	PH18		Carcase
2nd pH measure	PH2		Carcase
LL pH 24h	PH24LL		Carcase
ST pH 24h	PH24ST		Carcase
3rd pH measure	PH3		Carcase
Temp at pH 6	PH6TEMP		Carcase
In/Out pH 6 window	PH6W		Carcase
Temp at 1st pH measure	PHTEMP1		Carcase
Temp at 2nd pH measure	PHTEMP2		Carcase
Temp at 3rd ph measure	PHTEMP3		Carcase
Time at pH1 measure	PHTIME1		Carcase
Time at pH2 measure	PHTIME2		Carcase
Time at pH3 measure	PHTIME3		Carcase
Ultimate temp for pH	PHULTTEMP		Carcase
Time for ultimate pH measure	PHULTTIME		Carcase

Description	Code	Notes	Type
Position in Rack	POSITION		Carcase
Slaughter weight	PSWT	CRC	Carcase
Rack Number	RACK		Carcase
Rectal Temperature	RECTALT		Carcase
Skin rib score	RIB		Carcase
Number of ribs	RIBCOUNT		Carcase
Round weight	RND		Carcase
Resistance to Compression	RTC		Carcase
Identifier of sample	SAMPLEID		Carcase
Cooking batch for SHEARF1	SF1COOKBATCH		Carcase
Cook date for SHEARF1	SF1COOKDATE		Carcase
Cooking batch for SHEARF5	SF5COOKBATCH		Carcase
Cookdate for SHEARF5	SF5COOKDATE		Carcase
Shear force cooking batch	SFCOOKBATCH		Carcase
Shear force cook date	SFCOOKDATE		Carcase
Shear force lab	SFLAB		carcase
Shear force topside 1	SFT1		Carcase
Cooking batch for SFT 1	SFT1COOKBATCH		Carcase
Cook date for SFT 1	SFT1COOKDATE		Carcase
Shear force topside 5	SFT5		Carcase
Cooking batch for SFT 5	SFT5COOKBATCH		Carcase
Cook date for SFT 5	SFT5COOKDATE		Carcase
Shear force 1	SHEARF1	Discussed as important measures of meat tenderness	Carcase
Shear force 5	SHEARF5	Discussed as important measures of meat tenderness	Carcase
Skin length	SLEN		Carcase
Spline PH18?	SPLINEPH18		Carcase
Spline pH6 temp?	SPLINEPH6TEMP		Carcase
Time to Stand	STAND		Carcase
Thorax circumference	THORAX		Carcase
Topside weight	TOP		Carcase
OFDA Fibre Diameter across staple	FDACST		Flc lab
OFDA Coefficient of Variation of Fibre Diameter Across Staple	FDACSTFDCV		Flc lab
OFDA Mean Fibre Diameter Across Staple Histogram	FDACSTHIST		Flc lab
OFDA Standard deviation of Mean Fibre Diameter Across Staple Histogram	FDACSTHISTSD		Flc lab
OFDA Standard Deviation Fibre Diameter Across Staple	FDACSTSD		Flc lab
OFDA Fibre Diameter Along Staple	FDALST		Flc lab
OFDA Coefficient of Variation of Fibre Diameter Along Staple	FDALSTCV		Flc lab
OFDA Standard Deviation of Fibre Diameter Along Staple	FDALSTSD		Flc lab
OFDA Fibre diameter histogram derived from measurements of Fibre Diameter	FDHIST		Flc lab

Description	Code	Notes	Type
OFDA Mean Fibre Diameter Along Segment	FDSEG		Flc lab
OFDA Standard deviation of mean fibre diameter along segment	FDSEGSD		Flc lab
OFDA Mean fibre ends	FIBREEND		Flc lab
OFDA Finest point from the tip	FINETIP		Flc lab
Fibre curvature histogram derived from measurements of Curvature	HISTCURV		Flc lab
Laserscan no. of fibres of each micron (space sep, start at 1um)	LAS_DHIST		flc lab
X value of clean wool colour	MEASCOLX		Flc lab
Y value of clean wool colour	MEASCOLY		Flc lab
Y-Z yellowness of clean wool colour	MEASCOLYZ		Flc lab
Z value of clean wool colour	MEASCOLZ		Flc lab
CV of diameter across staple	OFDA_ACROSSCVD		flc lab
SD of diameter across staple (ie between fibres)	OFDA_ACROSSSDD		flc lab
CV of diameter along staple	OFDA_ALONGCVD		flc lab
SD of diameter along staple (ie along fibres)	OFDA_ALONGSDD		flc lab
Percentage of total blob area on fibres	OFDA_BLOBPCNT		flc lab
(space separated, starting at 0 stepping 8)	OFDA_CURVPROFILE		flc lab
Diameter above mean that top 5% of fibres lie	OFDA_D5AM		flc lab
Number of fibres of each micron (space sep, start at 1um)	OFDA_DHIST		flc lab
Grease correction factor	OFDA_GREASECF		flc lab
Humidity correction factor used	OFDA_HUMIDCF		flc lab
Percentage of large blob area on fibres	OFDA_LGEBLOB		flc lab
Maximum diameter along staple	OFDA_MAXDALONG		flc lab
Mean diameter along 200um length	OFDA_MEANDA		flc lab
Minimum diameter along 200um length	OFDA_MINDA		flc lab
Minimum diameter along staple	OFDA_MINDALONG		flc lab
MM along staple that each scan is made	OFDA_MMPERALONG		flc lab
Number of fibres measured along 200um length	OFDA_NUMDA		flc lab
Number of flat (collapsed medullated fibre)	OFDA_NUMFLAT		flc lab
Number of medullated fibres	OFDA_NUMMED		flc lab
Mean opacity of fibres in %	OFDA_OPACITY		flc lab
SD of opacity	OFDA_OPACITYSD		flc lab
Percentage of medullated fibres	OFDA_PCNTMED		flc lab
SD of total blob area percentage	OFDA_SDBLOBPCNT		flc lab
SD of SD of diameter along 200um	OFDA_SDDA		flc lab
SD of percentage of large blob area on fibres	OFDA_SDLGEBLOB		flc lab
SD of mean diameter along 200um length	OFDA_SDMEANDA		flc lab

Description	Code	Notes	Type
SD of minim diameter along 200um length	OFDA_SDMINDA		flc lab
??? of diameter along 200um	OFDA_SDSDDA		flc lab
SD of percentage of small blob area on fibres	OFDA_SDSMLBLOB		flc lab
Number of fibres in histogram	OFDA_SIZE		flc lab
Percentage of small blob area on fibres	OFDA_SMLBLOB		flc lab
Mean diam across at each MMPERALONG of LENGTH (spc sep, start 0)	OFDA_STAPLEMEANS		flc lab
Num of fibres at each MMPERALONG of LENGTH (spc sep, start 0)	OFDA_STAPLENUMS		flc lab
SD of diam across at each MMPERALONG of LENGTH (spc sep, start 0)	OFDA_STAPLESDDS		flc lab
X of XYZ colour measurement after UV exposure	PSTAB_AFTER_X		flc lab
Y of XYZ colour measurement after UV exposure	PSTAB_AFTER_Y		flc lab
Y-Z of XYZ colour measurement after UV exposure	PSTAB_AFTER_YZ		flc lab
Z of XYZ colour measurement after UV exposure	PSTAB_AFTER_Z		flc lab
X of XYZ colour measurement before UV exposure	PSTAB_BEFORE_X		flc lab
Y of XYZ colour measurement before UV exposure	PSTAB_BEFORE_Y		flc lab
Y-Z of XYZ colour measurement before UV exposure	PSTAB_BEFORE_YZ		flc lab
Z of XYZ colour measurement before UV exposure	PSTAB_BEFORE_Z		flc lab
Change in Y-Z of XYZ colour measurement after UV exposure	PSTAB_DELTA_YZ		flc lab
Fibre Diameter Coarse Edge Percentage	CEM%	CEDGE%	Fleece
Fleece colour at fleece testing unscourable colour measured for yellowness	COL	FLCCOL	Fleece
	CRV Fibre Diam	stockbook	Fleece
	CRV Fibre Len	stockbook	Fleece
Dark & Medullated Fibre Risk	DMFR		Fleece
Maximum Fibre Diameter	FDMAX	MAX MICRON	Fleece
Minimum Fibre Diameter	FDMIN	MIN MICRON	Fleece
Prickle (should not be used- use comfort instead)	FDPF	PF/FDPK/>30	Fleece
Percentage of fibres less than 15 microns	FIBR<15		Fleece
Fleece Bin Line/Fleece grade	FLEECEGRADE		Fleece
	FPFT LENGTH	stockbook	Fleece
Hauteur length	HAUTEUR	HAUT	Fleece
Median clean fleece weight (MEDCFW)	MEDCFW%	stockbook/sapien	Fleece
Median greasy fleece weight (MEDGFW)	MEDGFW%	stockbook/sapien	Fleece
	MFE MICRON	stockbook	Fleece
No. Months growth of wool at harvest/testing	MONTHSWOOL	MONTHSGROWTH	Fleece

Description	Code	Notes	Type
Point of break base - % of staples broken at base	POBBASE	BSE/% Base Break	Fleece
Point of break - % of staples broken in the middle	POBMID	MID/% Mid Break	Fleece
Point of break - % of staples broken at the Tip	POBTIP	TIP/% Tip Break	Fleece
	SD ALONG	stockbook	Fleece
Coefficient of Variation of Staple Length	SLCV		Fleece
Vegetable matter in fleece	VM		Fleece
Schlumberger dry combing fleece yield - Schlumberger Combed Dry (1 percent TFM)	YLDSCH		Fleece
Hunter a day 1	RCa1		Hunter
Hunter a day 2	RCa2		Hunter
Hunter a day 3	RCa3		Hunter
Hunter a day 4	RCa4		Hunter
Hunter b day 1	RCb1		Hunter
Hunter b day 2	RCb2		Hunter
Hunter b day 3	RCb3		Hunter
Hunter b day 4	RCb4		Hunter
Hunter chroma day 1	RCC1		Hunter
Hunter chroma day 2	RCC2		Hunter
Hunter chroma day 3	RCC3		Hunter
Hunter chroma day 4	RCC4		Hunter
Hunter hue day 1	RCH1		Hunter
Hunter hue day 2	RCH2		Hunter
Hunter hue day 3	RCH3		Hunter
Hunter hue day 4	RCH4		Hunter
Hunter L day 1	RCL1		Hunter
Hunter L day 2	RCL2		Hunter
Hunter L day 3	RCL3		Hunter
Hunter L day 4	RCL4		Hunter
Ratio 630/580 day 1	RCR1		Hunter
Ratio 630/580 day 2	RCR2		Hunter
Ratio 630/580 day 3	RCR3		Hunter
Ratio 630/580 day 4	RCR4		Hunter
Relative time (decimal days from initial Hunter reading) day 1	RCT1		Hunter
Relative time (decimal days from initial Hunter reading) day 2	RCT2		Hunter
Relative time (decimal days from initial Hunter reading) day 3	RCT3		Hunter

Description	Code	Notes	Type
Relative time (decimal days from initial Hunter reading) day 4	RCT4		Hunter
Birth coat	BCOAT	HBC	LAMBING
Time to bleat after release at birth	BLEAT		LAMBING
	BRDX		LAMBING
Breathed Y/N	BREATHED		LAMBING
	BTIME		LAMBING
	BVIG		LAMBING
Fresh colour a*	CFa		LAMBING
Cleaned Y/N	CLEANED		LAMBING
CNS Haemorrhage 1-5	CNSHAEM		LAMBING
Time to make contact with ewe	CONTACT		LAMBING
Cranial Haemorrhage 1-5	CRHAEM		LAMBING
Death Category	DEATHCAT		LAMBING
DNA Sample frozen Y/N	DNASAMP		LAMBING
External Abnormalities	EXTERNAB		LAMBING
FED F/P/E/C	FED		LAMBING
Time to follow the ewe	FOLLOW		LAMBING
Enlarged Heart E/N	HEART		LAMBING
Fluid colour C/Y	JOINTS		LAMBING
Enlarged/Normal/Darkened Liver E/N/D	LIVER		LAMBING
Time to locate udder	LOCUDDER		LAMBING
	LPDK		LAMBING
Metacarpal length at birth	METACARPAL		LAMBING
Odema Extremities Y/N	ODEMAE		LAMBING
Odema Head Y/N	ODEMAH		LAMBING
Odema Neck Y/N	ODEMAN		LAMBING
Petechiation Heart Y/N	PETECH		LAMBING
Petechiation Lungs Y/N	PETECL		LAMBING
Primary/Secondary Predation P/S	PRED		LAMBING
Predator	PREDATOR		LAMBING
Predation Site	PREDSITE		LAMBING
Walked Y/N	WALKED		LAMBING
	GRT	SG - LIVEWEIGHT	Live Measurement
	Marble %		Live Measurement
	Rib Fat		Live Measurement
	Rump Fat		Live Measurement
AI date	AIDATE		MATING (JOINING)
Pedigree tested sire	PEDSIRE	sg - MATING	MATING (JOINING)
Age of animal	AGE	SG - test event number of days	SG Input Info
Dam Age Class at birth of animal	DAGE_CLASS	to be phased out	SG Input Info
Dam age at birth of animal	DAM_AGE	to be phased out	SG Input Info
Genetic Group	GENGROUP	GENETIC_GROUP	SG Input Info
Months age	MONTHSAGE	test event	SG Input Info

Description	Code	Notes	Type
Number of lambs born	NLB	SG	SG Input Info
Number of lambs weaned	NLW	SG	SG Input Info
Number of lambs born	NUMBERBORN	SG	SG Input Info
Number of lambs reared	NUMBERREAR	SG	SG Input Info
Year Drop (Year of Birth)Year number must include century -ie. 4 digits	YOB	YEAR DROP/BIRTHYEAR	SG Input Info
Shoulder/Back	BACK	SHLD/BACK/SHLDR	Visual
Research - Back	BACKR		Visual
Body cover	BDCOV		Visual
Body length	BDLGTH		Visual
Body size	BDSIZE		Visual
Booroola Gene Status	BOORGENE		Visual
Agitation Score	BOX		Visual
Wool Condition / Nourishment	COND	NOUR	Visual
Crutching status score - Ausmeat National Livestock Language Sheep - If a sheep has been crutched or not and type of crutch performed	CRUTCHSTAT		Visual
The stage of dentition score	DENTITION		Visual
Ear status score - Ausmeat National Livestock Language Sheep - Ears are recorded as to whether any blemishes are present	EARSTATUS		Visual
Evenness	EVEN		Visual
Fleece Density	FDENS	DENS	Visual
Fly Strike Position	FLYPOSITION		Visual
Fly Strike Severity 1-3	FLYSEVERITY		Visual
Fibre Pigmentation	FPIG		Visual
Frame size score - Ausmeat National Livestock Language Sheep - frame size of the sheep is scored according to the height in cm at the withers	FRAME SIZE		Visual
Handle (AMSEA)	HAND_AMSEA	HAND	Visual
Head/horn score	HEAD		Visual
Hocks	HOCKS		Visual
Injury or disease	INJURY	sbook	Visual
Jaw	JAW	Scored 1, 3 or 5	Visual
Legs - back	LEGSB		Visual
Legs - front	LEGSF		Visual
Neck Wrinkle Score	NKWR	neckwrinkle	Visual
Pasterns	PASTERN		Visual
Seed contamination	SEED		Visual
Skin Quality	SKINQUAL		Visual
Sheep skin wrinkle score - Ausmeat National Livestock Language Sheep - degree of wrinkle on the skin	SKINWRINK		Visual
Teeth eruption score	TEETH		Visual
Tip hair	THAIR	eg. Hairy birth coat & adult tip hair	Visual
Toes	TOES		Visual
Topline	TOPL		Visual
Wool Quality Score	WQL		Visual

Description	Code	Notes	Type
Wool Style	WSTYLE		Visual
Research - Jaw	JAWR		Visual
Research - Shoulder	SHLDR		Visual
Dohne Hundred Day Grade (HUNDGRADE)	HUNDGRADE	See grade	Visual - dohne
Dohne 365 Day Grade (INSPGRADE)	INSPGRADE	See grade	Visual - dohne
Current wool (fibre) cover	SH_CWC		Visual Shedding Sheep
Hair type	SH_HAIR		Visual Shedding Sheep
Wool (fibre) growth area	SH_WGA		Visual Shedding Sheep
Handle (INF Protocol)	HAND		
Stand number and shearer surname	SHEARER		

BREED CODES

Breed Type	Code	Source
AS (Australian Superfine)	A	WIEDPUG
M (Merino)	M	WIEDPUG
X (Crossbred)	X	WIEDPUG
D (Downs)	D	WIEDPUG
T (Carpet)	T	WIEDPUG
Sheds Fibres	R	WIEDPUG

See also codes for Sheep Genetics included here:

Breed Name	Breed Code	Source
STUD OTHER	00	Provided by S Field
STANDARD	01	Provided by S Field
BORDER	02	Provided by S Field
CORRIEDALE	03	Provided by S Field
DORSET HORN	04	Provided by S Field
COOLALEE	05	Provided by S Field
BOND	06	Provided by S Field
GROMARK	07	Provided by S Field
HYFER	08	Provided by S Field
WILTSHIRE HORN	09	Provided by S Field
POLWARTH	10	Provided by S Field
HAMPSHIRE DOWN	11	Provided by S Field
WILTIPOLL	12	Provided by S Field
MERINO -- now 50 or 60 - DO NOT USE	13	Provided by S Field
SOUTHDOWN	14	Provided by S Field
COOPWORTH	15	Provided by S Field
POLL DORSET	16	Provided by S Field
TEXEL	17	Provided by S Field
ROMNEY	18	Provided by S Field
SUFFOLK	19	Provided by S Field
TUKIDALE	20	Provided by S Field
SOUTH SUFFOLK	21	Provided by S Field
FINNSHEEP	22	Provided by S Field
WHITE SUFFOLK	23	Provided by S Field
LONGWOOL	24	Provided by S Field
{ Not assigned }	25	Provided by S Field
RESEARCH	26	Provided by S Field
SHROPSHIRE	27	Provided by S Field
CHEVIOT	28	Provided by S Field
SOUTH DORSET DOWN	29	Provided by S Field

Breed Name	Breed Code	Source
CARPETWOOL	30	Provided by S Field
ENGLISH LEICESTER	31	Provided by S Field
PERENDALE	32	Provided by S Field
DORSET DOWN	33	Provided by S Field
RYELAND	34	Provided by S Field
SOUTH HAMPSHIRE	35	Provided by S Field
BOER GOATS	36	Provided by S Field
TEXEL DOWNS	37	Provided by S Field
EAST FRIESIAN	38	Provided by S Field
BOOROOLA	39	Provided by S Field
DORPER 6000-6999 USA	40	Provided by S Field
NZ ROMNEY	41	Provided by S Field
SUFFOLK CANADA	42	Provided by S Field
FINN LEICESTERS	43	Provided by S Field
ELLIOTDALES	44	Provided by S Field
RED DEER	45	Provided by S Field
ELK DEER	46	Provided by S Field
DORPER 6000-6999 USA	47	Provided by S Field
SAMM 1000-1999 NZ	48	Provided by S Field
DAMARA	49	Provided by S Field
MERINO	50	Provided by S Field
DOHNE MERINOS	51	Provided by S Field
{ Not assigned }	52	Provided by S Field
{ Not assigned }	53	Provided by S Field
{ Not assigned }	54	Provided by S Field
{ Not assigned }	55	Provided by S Field
{ Not assigned }	56	Provided by S Field
{ Not assigned }	57	Provided by S Field
{ Not assigned }	58	Provided by S Field
{ Not assigned }	59	Provided by S Field
POLL MERINO	60	Provided by S Field
USA Range	61	Provided by S Field
USA Maternals	62	Provided by S Field
USA Goats	63	Provided by S Field
USA Hair	64	Provided by S Field
USA Merino	65	Provided by S Field
{ Not assigned }	66	Provided by S Field
{ Not assigned }	67	Provided by S Field
{ Not assigned }	68	Provided by S Field
USA Terminal	69	Provided by S Field
{ Not assigned }	70	Provided by S Field
{ Not assigned }	71	Provided by S Field

Breed Name	Breed Code	Source
{ Not assigned }	72	Provided by S Field
MERINO SOUTH AFRICA	73	Provided by S Field
NZ MERINO	74	Provided by S Field
NZ COOPWORTH	75	Provided by S Field
NZ LINCOLN	76	Provided by S Field
NZ BORDERDALE	77	Provided by S Field
NZ OXFORD DOWN	78	Provided by S Field
NZ WHITE HEAD M	79	Provided by S Field
NZ DRYSDALE	80	Provided by S Field
NZ LINCWORTH	81	Provided by S Field
NZ BORDER LEICESTER	82	Provided by S Field
NZ CORRIEDALE	83	Provided by S Field
NZ DORSET HORN	84	Provided by S Field
NZ POLL MERINO	85	Provided by S Field
NZ POLL DORSET	86	Provided by S Field
NZ TEXEL	87	Provided by S Field
NZ STH SUFFOLK	88	Provided by S Field
NZ SUFFOLK	89	Provided by S Field
NZ POLWARTH	90	Provided by S Field
NZ HAMPSHIRE	91	Provided by S Field
NZ FINNSHEEP	92	Provided by S Field
NZ DORSET DOWN	93	Provided by S Field
NZ RYELAND	94	Provided by S Field
NZ ENGLISH LEICESTER	95	Provided by S Field
NZ HALFBRED	96	Provided by S Field
NZ SHROPSHIRE	97	Provided by S Field
NZ GOTLAND PELT	98	Provided by S Field
NZ SOUTHDOWN	99	Provided by S Field
Commercial Terminals	CT	Provided by S Field
Commercial Maternals	CM	Provided by S Field
xBred XB as a breed only	XB	Provided by S Field
Unknown breeding	XX	Provided by S Field
CLUN FOREST	CF	Provided by S Field
AFRINO	AF	Provided by S Field
ANGORA GOAT	AG	Provided by S Field
CHAROLAIS	CH	Provided by S Field
USA Texel	UT	Provided by S Field
COLUMBIA 5000-5999 USA	CO	Provided by S Field
VAN ROOY	VR	Provided by S Field
ILE DE FRANCE	IF	Provided by S Field
ST CROIX 6000-6999 USA	SX	Provided by S Field
USA Sheep General code	US	Provided by S Field

Breed Name	Breed Code	Source
Commercial Shedders	CS	Provided by S Field
AWASSI	AW	Provided by S Field

POSSIBLE INPUT DATA FOR TRAIT CODES

When researching this project the following possible data input was discovered. This list needs to be considered for refinement and/or exclusion, particularly when data is being submitted to Sheep Genetics for analysis. An attempt has been made to show which trait codes are/will be used by Sheep Genetics in the new XML formats and with staging codes. This list is not a replica of the trait codes but a sample of the various approaches to data input. Some of the data input descriptions apply to the additional list of trait codes.

Trait Code	Data input codes	XML -YES	STAGE CODES PREFIXED	Date Descriptions	Notes	Reference
DATE	dd/mm/yyyy	Y	Y	Date used for measurements/visual scoring		SG - XSD format
FDATE	dd/mm/yyyy	Y	Y	Date used for fleece measurement		SG - XSD format
CDATE	dd/mm/yyyy	Y	N	Date used for Carcase measurement		SG - XSD format
DOB	dd/mm/yyyy	Y	N	Date of birth of sheep		SG - XSD format
JOINDATE	dd/mm/yyyy	Y	N	Date used for recording first joining/mating		SG - XSD format
SCANDATE	dd/mm/yyyy	Y	N	Date used for recording preg scanning results		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Sex Description	Notes	Reference
Sex	E			Ewe	this is the name of a female sheep	industry/breeders
Sex	F	Y		Female		SG - XSD format
Sex	R			Ram	this is the name of an entire male sheep	industry/breeders
Sex	M	Y		Male		SG - XSD format
Sex	W			Wether	this is the name of a castrated male sheep	industry/breeders
Sex	1	Y		Ram/Wether - all males		SG - XSD format
Sex	2	Y		Ewe - all females		SG - XSD format
Sex	MS			Mixed Sex Weaner (Not yet sexed)	This is the name given to a mob of sheep that have not yet been recorded for sex – used in commercial flocks and usually attributed to ewes and wethers in a mob.	TD
Sex	[blank]	Y		Unknown		SG - XSD format

Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Status/Grade/Class Description	Notes	Reference
STATUS	A	Y		Alive/Active	Terminology for status, class and grade needs discussion	industry/breeders
STATUS	D	Y		Dead		SG - XSD format
STATUS	N			Non-active (inactive)		Topstud/TD
STATUS	SOLD			Sold		industry/breeders
FATE	D			Dead/Died		industry/breeders
FATE	SOLD			Sold		industry/breeders
CLASS	C			Cull		industry/breeders
CLASS	S			Stud		industry/breeders
GRADE	C			Cull		industry/breeders
GRADE	CU	Y		Cull		SG - XSD format
GRADE	CO	Y		Commercial (Downgraded to Flock)		SG - XSD format
GRADE	TOP	Y		Classed into tops (studs)	Final grade/class/destination	industry/breeders/SG - XSD FORMAT
GRADE	FLOCK	Y		classed into commercial flock	Final grade/class/destination	industry/breeders/SG - XSD FORMAT
GRADE	CULL	Y		classed out - culled	Final grade/class/destination	industry/breeders/SG - XSD FORMAT
GRADE	?	Y		100 Day Grade	Dohne grade?	stockbook
GRADE	?	Y		365 Day Grade	Dohne grade?	stockbook
GRADE	?	Y		Is this another classing code?	Different to above grades?	SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Birth Type Description	Notes	Reference
BT	[blank]	Y		Unknown		SG - XSD format
BT	*	Y		Unknown	Missing RT - prefer to leave blank	SG - XSD format
BT	0	Y		Dead or missing (not raised)		SG - XSD format
BT	1	Y		Single		SG - XSD format
BT	S	N		Single		industry/breeders
BT	2	Y		Twin		SG - XSD format
BT	T	N		Twin		industry/breeders
BT	3	Y		Triplet		SG - XSD format
BT	TR	N		Triplet		industry/breeders

BT	4	Y		Quad		SG - XSD format
BT	5	Y		Quintuplet		SG - XSD format
BT	6	Y		Sextuplet		SG - XSD format
BT	7	Y		Septuplet		SG - XSD format
BT	8	Y		Octuplet		SG - XSD format
BT	9	Y		Nontuplet (9 or more)		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Rear Type Description	Notes	Reference
RT	[blank]	Y		Unknown		SG - XSD format
RT	*	Y		Missing RT - prefer to leave blank		SG - XSD format
RT	0	Y		Dead or missing (not raised)		SG - XSD format
RT	1	Y		Single		SG - XSD format
RT	S	N		Single		industry/breeders
RT	2	Y		Twin	can be born 2 and raised 1 if one twin died	SG - XSD format
RT	T	N		Twin	can be born twin and raised single if one twin died	industry/breeders
RT	3	Y		Triplet	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	TR	N		Triplet	can be raised as a lesser number than born if some lambs died	industry/breeders
RT	4	Y		Quad	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	5	Y		Quintuplet	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	6	Y		Sextuplet	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	7	Y		Septuplet	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	8	Y		Octuplet	can be raised as a lesser number than born if some lambs died	SG - XSD format
RT	9	Y		Nontuplet (9 or more)	can be raised as a lesser number than born if some lambs died	SG - XSD format

Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Joining method Descriptions	Notes	Reference
JOINMETHOD	1	Y		SG CODE for naturally born		SG - XSD format
JOINMETHOD	2	Y		SG CODE for ET		SG - XSD format
JOINMETHOD	3	Y		SG CODE for AI		SG - XSD format
JOINMETHOD	4	Y		SG CODE for Jivet		SG - XSD format
JOINMETHOD	5	Y		SG CODE for hand mated		SG - XSD format
JOINMETHOD	6	N		??	What is this for?	S Field
JOINMETHOD	AI	N		Artificial Insemination		industry/breeders
JOINMETHOD	ET	N		Embryo Transfer		industry/breeders
JOINMETHOD	JIVET	N		Juvenile Invitro Embryo transfer		industry/breeders
JOINMETHOD	NAT	N		Naturally born		industry/breeders
JOINMETHOD	N	N		Naturally born		industry/breeders
JOINMETHOD	[blank]	?		Not joined, dam damaged, unknown		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Pregnancy Results Description	Notes	Reference
SCANWETDRY	W	Y	N	Pregnancy scanned - wet		SG - XSD format
SCANWETDRY	D	Y	N	Pregnancy scanned - dry		SG - XSD format
SCANWETDRY	WET			Pregnancy scanned in lamb		industry/breeders
SCANWETDRY	PREGNANT			Pregnancy scanned in lamb		
SCANWETDRY	EMPTY			Pregnancy scanned- no lamb (Empty)		industry/breeders
SCANWETDRY	DRY			Pregnancy scanned- no lamb (Empty)		industry/breeders
SCANMULTIPLE	SCAN0			Pregnancy scanned- no lamb (Empty)		industry/breeders
SCANMULTIPLE	SCAN1			Pregnancy scanned in lamb as single		industry/breeders
SCANMULTIPLE	SCAN2			Pregnancy scanned in lamb with Twins		industry/breeders
SCANMULTIPLE	SCAN3			Pregnancy scanned in lamb with triplets		industry/breeders

SCANMULTIPLE	1	Y	N	Pregnancy scanned in lamb as single		SG - XSD format
SCANMULTIPLE	2	Y	N	Pregnancy scanned in lamb with Twins		SG - XSD format
SCANMULTIPLE	3	Y	N	Pregnancy scanned in lamb with triplets		SG - XSD format
SCANMULTIPLE	4	Y	N	Pregnancy scanned in lamb with quads		SG - XSD format
WEANWETDRY	W	Y	N	Udder scored only – post lambing/milk		SG - XSD format
WEANWETDRY	D	Y	N	Udder scored only – post lambing/no milk		SG - XSD format
PREGSCAN	YES			Pregnancy scanned in lamb		industry/breeders
PREGSCAN	NO			Pregnancy scanned- no lamb		industry/breeders
PREGSCAN	PREGTESLM			Pregnancy tested in lamb		TD
PREGSCAN	PREGTESNLM			Pregnancy tested not in lamb		TD
PREGSCAN	STATMAT			Station mated	Referring to Station mated ewes Where Ewe(s) have been exposed to ram(s) in the previous 6 months (nominate the length of time in months)	TD
PREGSCAN	NOTSTATMAT			Not Station mated	"Not station mated, where the ewe(s) have not been intentionally exposed to ram(s)"	TD
PREGSCAN	UNKNOWN			Pregnancy status of ewe(s) is unknown or not declared		TD
SCANMULTIPLE SCANWETDRY WEANWETDRY	[BLANK]	Y	N	Pregnancy status of ewe is unknown or not declared		industry/breeders
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Live measurement Description	Notes	Reference
EMD	numeric	Y	Y	Ultrasound Eye Muscle depth	Live muscle measurement scan	SG - XSD FORMAT
EMW	numeric	Y	Y	Eye Muscle width	Live muscle measurement scan	SG - XSD FORMAT
FAT	numeric	Y	Y	Ultrasound Fat Depth at 'C' site of the live animal	Live muscle measurement scan	SG - XSD FORMAT
WEC	numeric	Y	Y	Worm Egg Count (Strongyle is default)	Worm egg count eggs/gram	SG - XSD FORMAT
WECS	numeric	Y	Y	Worm Egg Count (Strongyle)	Worm egg count eggs/gram	SG - XSD FORMAT
WECN	numeric	Y	Y	Worm Egg Count (Nemetodirus)	Worm egg count eggs/gram	SG - XSD FORMAT

SC	numeric	Y	Y	Scrotal circumference measurement	measured in mm.	SG - XSD FORMAT
WT	numeric	Y	Y	Body weight	live body weight measured in kg, one decimal point	SG - XSD FORMAT
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Testicle Description	Notes	Reference
TESTICLES	0	Y		No testicles (if male)		SG - XSD format
TESTICLES	1	Y		Only 1 testicle in male		SG - XSD format
TESTICLES	2	Y		Normal - 2 testicles		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Lamb Ease Description	Notes	Reference
Lambease	0	Y		Unobserved		MLA
Lambease	1	Y		No assistance		MLA/TD
Lambease	2	Y		Some assistance		MLA
Lambease	3	Y		Hard Assistance		MLA
Lambease	4	Y		Abnormal presentation		MLA
Lambease	5	Y		Other		MLA
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Visual Trait Description	Notes	Reference
BDWR	1	Y	Y	BodyWrinkle - no wrinkles	Degree of body wrinkle scored from 1 (none) to 5 (heavy)	AMSEA/SG XSD FORMAT
BDWR	2	Y	Y	BodyWrinkle	Degree of body wrinkle scored from 1 (none) to 5 (heavy)	AMSEA/SG XSD FORMAT
BDWR	3	Y	Y	BodyWrinkle	Degree of body wrinkle scored from 1 (none) to 5 (heavy)	AMSEA/SG XSD FORMAT
BDWR	4	Y	Y	BodyWrinkle	Degree of body wrinkle scored from 1 (none) to 5 (heavy)	AMSEA/SG XSD FORMAT
BDWR	5	Y	Y	BodyWrinkle - extensive/ heavy wrinkles	Degree of body wrinkle scored from 1 (none) to 5 (heavy)	AMSEA/SG XSD FORMAT
CS	1	Y	Y	ConditionScore/Fat score - leanest - 0-5 mm estimated tissue depth at the GR site	Condition of the sheep based on the estimated tissue depth in mm at the GR site	MLA/Ausmeat National Livestock Language Sheep/SG XSD FORMAT

CS	2	Y	Y	ConditionScore - 6-10 mm estimated tissue depth at the GR site	Condition of the sheep based on the estimated tissue depth in mm at the GR site	MLA/Ausmeat National Livestock Language Sheep/SG XSD FORMAT
CS	3	Y	Y	ConditionScore/Fat score - 11-15 mm estimated tissue depth at the GR site	Condition of the sheep based on the estimated tissue depth in mm at the GR site	MLA/Ausmeat National Livestock Language Sheep/SG XSD FORMAT
CS	4	Y	Y	ConditionScore/Fat score - 16-20 mm estimated tissue depth at the GR site	Condition of the sheep based on the estimated tissue depth in mm at the GR site	MLA/Ausmeat National Livestock Language Sheep/SG XSD FORMAT
CS	5	Y	Y	ConditionScore/Fat score - fattest - 21mm and over mm estimated tissue depth at the GR site	Condition of the sheep based on the estimated tissue depth in mm at the GR site	MLA/Ausmeat National Livestock Language Sheep/SG XSD FORMAT
FACE	1	Y	Y	FaceCover - no face cover/open face	Wool cover on the face scored from 1 (open) to 5 (muffled)	AMSEA/SG XSD FORMAT
FACE	2	Y	Y	FaceCover	Wool cover on the face scored from 1 (open) to 5 (muffled)	AMSEA/SG XSD FORMAT
FACE	3	Y	Y	FaceCover	Wool cover on the face scored from 1 (open) to 5 (muffled)	AMSEA/SG XSD FORMAT
FACE	4	Y	Y	FaceCover	Wool cover on the face scored from 1 (open) to 5 (muffled)	AMSEA/SG XSD FORMAT
FACE	5	Y	Y	FaceCover - muffled/fully covered face	Wool cover on the face scored from 1 (open) to 5 (muffled)	AMSEA/SG XSD FORMAT
FLROT	0	Y	Y	FleeceRot - No fleece rot present	refer to AMSEA standard	AMSEA/SG XSD FORMAT
FLROT	1	Y	Y	FleeceRot - no fleece rot	refer to AMSEA standard	AMSEA/SG XSD FORMAT
FLROT	2	Y	Y	FleeceRot - bands of bacterial staining but no crusting	refer to AMSEA standard	AMSEA/SG XSD FORMAT
FLROT	3	Y	Y	FleeceRot - bands of bacterial staining but no crusting	refer to AMSEA standard	AMSEA/SG XSD FORMAT
FLROT	4	Y	Y	FleeceRot - bands of crusty fleece rot	refer to AMSEA standard	AMSEA/SG XSD FORMAT
FLROT	5	Y	Y	FleeceRot - bands of crusty fleece rot/Heavy infestation of fleece rot	refer to AMSEA standard	AMSEA/SG XSD FORMAT

NKWR	1	Y	Y	NeckWrinkle - No wrinkling on the neck	AMSEA standard: quantity & quality of wrinkle on the apron and back of neck with 1 being very little wrinkle and 5 a lot	AMSEA/SG XSD FORMAT
NKWR	2	Y	Y	NeckWrinkle	refer to AMSEA standard	AMSEA/SG XSD FORMAT
NKWR	3	Y	Y	NeckWrinkle	refer to AMSEA standard	AMSEA/SG XSD FORMAT
NKWR	4	Y	Y	NeckWrinkle	refer to AMSEA standard	AMSEA/SG XSD FORMAT
NKWR	5	Y	Y	NeckWrinkle - Large wrinkles and folds on the neck	refer to AMSEA standard	AMSEA/SG XSD FORMAT
WCOL	1	Y	Y	Greasy Wool colour - whitest	Greasy wool colour scored visually from whitest (1) to yellow (5)	AMSEA/SG XSD FORMAT
WCOL	2	Y	Y	Greasy Wool colour	Greasy wool colour scored visually from whitest (1) to yellow (5)	AMSEA/SG XSD FORMAT
WCOL	3	Y	Y	Greasy Wool colour	Greasy wool colour scored visually from whitest (1) to yellow (5)	AMSEA/SG XSD FORMAT
WCOL	4	Y	Y	Greasy Wool colour	Greasy wool colour scored visually from whitest (1) to yellow (5)	AMSEA/SG XSD FORMAT
WCOL	5	Y	Y	Greasy Wool colour - yellow	Greasy wool colour scored visually from whitest (1) to yellow (5)	AMSEA/SG XSD FORMAT
CHAR	1	Y	Y	Wool character - well defined and regular	definition and variation of crimp between & along the staple scored from 1 to 5	AMSEA/SG XSD FORMAT
CHAR	2	Y	Y	Wool character	definition and variation of crimp between & along the staple scored from 1 to 5	AMSEA/SG XSD FORMAT
CHAR	3	Y	Y	Wool character	definition and variation of crimp between & along the staple scored from 1 to 5	AMSEA/SG XSD FORMAT
CHAR	4	Y	Y	Wool character	definition and variation of crimp between & along the staple scored from 1 to 5	AMSEA/SG XSD FORMAT
CHAR	5	Y	Y	Wool character - undefined and large variation	definition and variation of crimp between & along the staple scored from 1 to 5	AMSEA/SG XSD FORMAT
DUST	1	Y	Y	Dust penetration - only on tip <5%	Degree of dust penetration from 1 (least/on tip) to 5 (heavy dust impact on staple)	AMSEA/SG XSD FORMAT
DUST	2	Y	Y	Dust penetration	Degree of dust penetration from 1 (least/on tip) to 5 (heavy dust impact on staple)	AMSEA/SG XSD FORMAT

DUST	3	Y	Y	dust penetration	Degree of dust penetration from 1 (least/on tip) to 5 (heavy dust impact on staple)	AMSEA/SG XSD FORMAT
DUST	4	Y	Y	dust penetration	Degree of dust penetration from 1 (least/on tip) to 5 (heavy dust impact on staple)	AMSEA/SG XSD FORMAT
DUST	5	Y	Y	dust penetration - where 80 - 100% of staple is affected by dust	Degree of dust penetration from 1 (least/on tip) to 5 (heavy dust impact on staple)	AMSEA/SG XSD FORMAT
WEATH	1	Y	Y	Staple weathering - least damaged by weather	Deterioration of staple due to light and water 1 (least) to 5 (most) reflect the depth & degree of deterioration	AMSEA/SG XSD FORMAT
WEATH	2	Y	Y	Staple weathering	Deterioration of staple due to light and water 1 (least) to 5 (most) reflect the depth & degree of deterioration	AMSEA/SG XSD FORMAT
WEATH	3	Y	Y	Staple weathering	Deterioration of staple due to light and water 1 (least) to 5 (most) reflect the depth & degree of deterioration	AMSEA/SG XSD FORMAT
WEATH	4	Y	Y	Staple weathering	Deterioration of staple due to light and water 1 (least) to 5 (most) reflect the depth & degree of deterioration	AMSEA/SG XSD FORMAT
WEATH	5	Y	Y	Staple weathering -most deterioration - 30 to 50% of staple	Deterioration of staple due to light and water 1 (least) to 5 (most) reflect the depth & degree of deterioration	AMSEA/SG XSD FORMAT
SSTRC	1	Y	Y	Staple structure - size & diameter of each staple <5mm	The size and diameter of each staple from 1 to 5	AMSEA/SG XSD FORMAT
SSTRC	2	Y	Y	Staple structure	The size and diameter of each staple from 1 to 5	AMSEA/SG XSD FORMAT
SSTRC	3	Y	Y	Staple structure	The size and diameter of each staple from 1 to 5	AMSEA/SG XSD FORMAT
SSTRC	4	Y	Y	Staple structure	The size and diameter of each staple from 1 to 5	AMSEA/SG XSD FORMAT
SSTRC	5	Y	Y	Staple structure - size & diameter of each staple 30 to 50mm	The size and diameter of each staple from 1 to 5	AMSEA/SG XSD FORMAT
FEET	1	Y	Y	Legs/Feet conformation - very good	Conformation of feet & legs scored from 1 (very good) to 5 (very poor)	AMSEA
FEET	2	Y	Y	Legs/Feet conformation	Conformation of feet & legs scored from 1 (very good) to 5 (very poor)	AMSEA
FEET	3	Y	Y	Legs/Feet conformation	Conformation of feet & legs scored from 1 (very good) to 5 (very poor)	AMSEA
FEET	4	Y	Y	Legs/Feet conformation	Conformation of feet & legs scored from 1 (very good) to 5 (very poor)	AMSEA
FEET	5	Y	Y	Legs/Feet conformation - very poor	Conformation of feet & legs scored from 1 (very good) to 5 (very poor)	AMSEA
LEGS	1	Y	Y	Legs		SG - XSD format

LEGS	2	Y	Y	Legs		SG - XSD format
LEGS	3	Y	Y	Legs		SG - XSD format
LEGS	4	Y	Y	Legs		SG - XSD format
LEGS	5	Y	Y	Legs		SG - XSD format
JAW	1			Jaw - very well aligned jaw/teeth	Undershot/overshot lower jaw (and teeth) relative to the top jaw, scored 1, 3 & 5.	AMSEA
JAW	3			Jaw - marginally undershot or overshot	Undershot/overshot lower jaw (and teeth) relative to the top jaw, scored 1, 3 & 5.	AMSEA
JAW	5			Jaw - heavily undershot or overshot jaw/teeth	Undershot/overshot lower jaw (and teeth) relative to the top jaw, scored 1, 3 & 5.	AMSEA
BACK	1			Back/shoulder conformation - very good	Conformation of back and shoulder from 1 (very good) to 5 (very poor)	AMSEA
BACK	2			Back/shoulder conformation	Conformation of back and shoulder from 1 (very good) to 5 (very poor)	AMSEA
BACK	3			Back/shoulder conformation	Conformation of back and shoulder from 1 (very good) to 5 (very poor)	AMSEA
BACK	4			Back/shoulder conformation	Conformation of back and shoulder from 1 (very good) to 5 (very poor)	AMSEA
BACK	5			Back/shoulder conformation - very poor	Conformation of back and shoulder from 1 (very good) to 5 (very poor)	AMSEA
FPIG	1			Fibre pigment - no dark fibres on any part of the sheep	Percentage of dark fibres on any part of sheep from 1 (none) to 5 (>76% pigmented fibres)	AMSEA
FPIG	2			Fibre pigment	Percentage of dark fibres on any part of sheep from 1 (none) to 5 (>76% pigmented fibres)	AMSEA
FPIG	3			Fibre pigment	Percentage of dark fibres on any part of sheep from 1 (none) to 5 (>76% pigmented fibres)	AMSEA
FPIG	4			Fibre pigment	Percentage of dark fibres on any part of sheep from 1 (none) to 5 (>76% pigmented fibres)	AMSEA
FPIG	5			Fibre pigment - 76-100% of dark/pigmented fibres at one or more sites on the sheep	Percentage of dark fibres on any part of sheep from 1 (none) to 5 (>76% pigmented fibres)	AMSEA
SPIG	1	Y	Y	Skin/non fibre pigment - no pigmentation	Percentage of pigmentation on areas not short from 1(none at any site) to 5 (>76% on one or more bare skin sites, and/or >76% of total hoof area)	AMSEA/SG XSD FORMAT
SPIG	2	Y	Y	Skin/non fibre pigment	Percentage of pigmentation on areas not short from 1(none at any site) to 5 (>76% on one or more bare skin sites, and/or >76% of total hoof area)	AMSEA/SG XSD FORMAT
SPIG	3	Y	Y	Skin/non fibre pigment	Percentage of pigmentation on areas not short from 1(none at any site) to 5 (>76% on one or more bare skin	AMSEA/SG XSD FORMAT

					sites, and/or >76% of total hoof area)	
SPIG	4	Y	Y	Skin/non fibre pigment	Percentage of pigmentation on areas not short from 1(none at any site) to 5 (>76% on one or more bare skin sites, and/or >76% of total hoof area)	AMSEA/SG XSD FORMAT
SPIG	5	Y	Y	Skin/non fibre pigment - 76-100% pigmented area on one or more bare skin sites, and/or 76-100% of the total hoof area	Percentage of pigmentation on areas not short from 1(none at any site) to 5 (>76% on one or more bare skin sites, and/or >76% of total hoof area)	AMSEA/SG XSD FORMAT
BLK	1	Y	N	Recessive black- no markings, usually scored at tagging or marking	Recessive black is identified by relatively symmetrical markings on both sides of the face. There are 2 scores: 1 for no recessive markings and 5 for some recessive markings. This trait does not include random spot or fibre pigmentation.	AMSEA/SG XSD FORMAT
BLK	5	Y	N	Recessive black- yes recessive markings = 5, usually scored at tagging or marking	Recessive black is identified by relatively symmetrical markings on both sides of the face. There are 2 scores: 1 for no recessive markings and 5 for some recessive markings. This trait does not include random spot or fibre pigmentation.	AMSEA/SG XSD FORMAT
SPOT	1	Y	Y	Random spot - no spots, recorded at marking time	Random spot, scored 1 (none) or 5 (spots). If both sides of the face or body are spotted the sheep should be scored as a recessive black.	AMSEA/SG XSD FORMAT
SPOT	5	Y	Y	Random spot - spot/s, recorded at marking time	Random spot, scored 1 (none) or 5 (spots). If both sides of the face or body are spotted the sheep should be scored as a recessive black.	AMSEA/SG XSD FORMAT
BBA	1	Y	Y	Breech cover - large amount of bare area (BBA - bare breech area)	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BBA	2	Y	Y	Breech cover (BBA - bare breech area)	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BBA	3	Y	Y	Breech cover (BBA - bare breech area)	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BBA	4	Y	Y	Breech cover (BBA - bare breech area)	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BBA	5	Y	Y	Breech cover - no bare area around breech (BBA - bare breech area)	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BRCOV	1	Y	Y	Breech cover - large amount of bare area	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT

BRCOV	2	Y	Y	Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BRCOV	3	Y	Y	Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BRCOV	4	Y	Y	Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BRCOV	5	Y	Y	Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
CCOV	1	Y	Y	Crutch cover - large amount of bare area	Size of natural bare area in the pubic & groin from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
CCOV	2	Y	Y	Crutch cover	Size of natural bare area in the pubic & groin from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
CCOV	3	Y	Y	Crutch cover	Size of natural bare area in the pubic & groin from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
CCOV	4	Y	Y	Crutch cover	Size of natural bare area in the pubic & groin from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
CCOV	5	Y	Y	Crutch cover - no bare area around pubic & groin area	Size of natural bare area in the pubic & groin from 1 (large) to 5 (no bare area)	AMSEA/SG XSD FORMAT
BRWR	1	Y	Y	Degree of wrinkle at the tail set & hind legs	Degree of wrinkle at the tail set & hind legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
BRWR	2	Y	Y	Degree of wrinkle at the tail set & hind legs	Degree of wrinkle at the tail set & hind legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
BRWR	3	Y	Y	Degree of wrinkle at the tail set & hind legs	Degree of wrinkle at the tail set & hind legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
BRWR	4	Y	Y	Degree of wrinkle at the tail set & hind legs	Degree of wrinkle at the tail set & hind legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
BRWR	5	Y	Y	Degree of wrinkle at the tail set & hind legs - extensive/heavy breech wrinkle	Degree of wrinkle at the tail set & hind legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
DAG	1	Y	Y	Dag score 1 - NO dag adhering to the breech and legs of sheep	Degree of dag adhering to the breech & legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
DAG	2	Y	Y	Dag score 2	Degree of dag adhering to the breech & legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
DAG	3	Y	Y	Dag score 3	Degree of dag adhering to the breech & legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
DAG	4	Y	Y	Dag score 4	Degree of dag adhering to the breech & legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT

DAG	5	Y	Y	Dag score 5 - extensive dags adhering to the breech and legs of sheep	Degree of dag adhering to the breech & legs from 1 (nil) to 5 (extensive)	AMSEA/SG XSD FORMAT
URINE	1	Y	Y	Urine stain score		SG - XSD format
URINE	2	Y	Y	Urine stain score		SG - XSD format
URINE	3	Y	Y	Urine stain score		SG - XSD format
URINE	4	Y	Y	Urine stain score		SG - XSD format
URINE	5	Y	Y	Urine stain score		SG - XSD format
SCORER	?	Y	Y	SCORER IF MORE THAN 1 FOR VISUAL SCORING		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Hot Carcase Weight Score Description	Notes	Reference
HCWT	8			WeightScore	up to 8 kg carcase based on HSCW	TD
HCWT	10			WeightScore	8 up to 10 kg carcase based on HSCW	TD
HCWT	12			WeightScore	10 up to 12 kg carcase based on HSCW	TD
HCWT	14			WeightScore	12 up to 14 kg carcase based on HSCW	TD
HCWT	16			WeightScore	14 up to 16 kg carcase based on HSCW	TD
HCWT	18			WeightScore	16 up to 18 kg carcase based on HSCW	TD
HCWT	20			WeightScore	18 up to 20 kg carcase based on HSCW	TD
HCWT	22			WeightScore	20 up to 22 kg carcase based on HSCW	TD
HCWT	24			WeightScore	22 up to 24 kg carcase based on HSCW	TD
HCWT	26			WeightScore	24 up to 26 kg carcase based on HSCW	TD
HCWT	28			WeightScore	28 and above kg carcase based on HSCW	TD
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Crutch Status Description	Notes	Reference
CRUTCHSTAT	[BLANK]			Not crutched or not recorded		
CRUTCHSTAT	FULL			A crutch that extends over and above the tail		TD
CRUTCHSTAT	KEYHOLE			A crutch under the tail and on the tip of tail		TD
CRUTCHSTAT	MARKET			A very light crutch removing only dags under the tail		TD
Trait Code	Data Input Code	XML -YES	STAGE CODES	Carcase measurement description	Notes	Reference

			PREFIXED			
CEMW	numeric	Y	N	Carcase eye muscle width		SG - XSD format
CEMD	numeric	Y	N	Carcase eye muscle depth		SG - XSD format
CFAT	numeric	Y	N	Carcase fat depth		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Ear Status Description	Notes	Reference
EARSTATUS	INTACT			No blemishes		TD
EARSTATUS	OWISE			"Where ears have been subject to marking, tagging or damage due to natural causes"		TD
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Mulesed Status Description	Notes	Reference
MULESED	PARTMULES			Sheep has been mulesed using a modified procedure (partial)		Ausmeat National Livestock Language Sheep
MULESED	NOMULES			Sheep has not been mulesed		Ausmeat National Livestock Language Sheep
MULESED	MULES			Sheep has been mulesed (full)		Ausmeat National Livestock Language Sheep
MULESED	Y	Y	Y	Yes, sheep has been mulesed		SG - XSD format
MULESED	N	Y	Y	No, sheep has not been mulesed		SG - XSD format
MULESED	[BLANK]	Y	Y	Mulesing status not recorded or is unknown		SG - XSD format
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	DMFR Status Description	Notes	Reference
DMFR	[BLANK]			DMFR Risk - not declared	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
DMFR	1			DMFR Risk Level 1 (lowest level)	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
DMFR	2			DMFR Risk Level 2	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
DMFR	3			DMFR Risk Level 3	Risk score for contamination with dark and/or medullated fibre	WIEDPUG

DMFR	4			DMFR Risk Level 4	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
DMFR	5			DMFR Risk Level 5	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
DMFR	6			DMFR Risk Level 6	Risk score for contamination with dark and/or medullated fibre	WIEDPUG
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Tail Status Description	Notes	Reference
TAILSTATUS	DOCKED			Docked	Part of the tail has been removed	TD/Ausmeat National Livestock Language Sheep
TAILSTATUS	INTACT			Intact	Tail considered natural length	TD/Ausmeat National Livestock Language Sheep
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Horn Status Description	Notes	Reference
HORN	P			Poll	Where the sheep is hornless as a genetic attribute (may show some evidence of scurs)	TD/Ausmeat National Livestock Language Sheep
HORN	H			Horned	Where the horn(s) is/are either intact or partially removed	TD/Ausmeat National Livestock Language Sheep
HORN	DH			Dehorned	Where the horn has been removed leaving little or no protrusion of horn from the skull	TD/Ausmeat National Livestock Language Sheep
HORN	S			Scurs	Scurs	TD/Ausmeat National Livestock Language Sheep
HORN	[blank]			Unknown	Horn status not recorded	MG
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Activity Description	Notes	Reference
Activity	LASER			Fleece testing		
Activity	OFDA			Fleece testing		
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Breeding Type Description	Notes	Reference
BREEDINGTYPE	P	Y		Purebred		SG - XSD format
BREEDINGTYPE	F	Y		Full blood		SG - XSD format
BREEDINGTYPE	1	Y		1st cross		SG - XSD format
BREEDINGTYPE	2	Y		2nd cross		SG - XSD format
BREEDINGTYPE	3	Y		3rd cross		SG - XSD format

BREEDINGTYPE	4	Y		4th cross		SG - XSD format
BREEDINGTYPE	5	Y		5th cross		SG - XSD format
BREEDINGTYPE	A	N		AS (Australian Superfine)	Declared breed	WIEDPUG
BREEDINGTYPE	M	N		M (Merino)	Declared breed	WIEDPUG
BREEDINGTYPE	X	N		X (Crossbred)	Declared breed	WIEDPUG
BREEDINGTYPE	D	N		D (Downs)	Declared breed	WIEDPUG
BREEDINGTYPE	T	N		T (Carpet)	Declared breed	WIEDPUG
BREEDINGTYPE	R	N		Sheds Fibres	Declared breed	WIEDPUG
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	VM Description	Notes	Reference
VM	HEAVYVM			Heavy burr/seed	Vegetable matter	TD
VM	LIGHTVM			Light burr/seed	Vegetable matter	TD
VM	MEDIUMVM			Medium burr/seed	Vegetable matter	TD
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Fleece Measurement Description	Notes	Reference
FD	Numeric/decimal	Y	Y	Mean Micron/Fibre Diameter		industry/breeders/SG - XSD FORMAT
FDDEV	Numeric/decimal			Deviation from Group's average micron		industry/breeders/SG - XSD FORMAT
FDCV	Numeric/decimal	Y	Y	Coefficient of variation of Fibre Diameter		industry/breeders/SG - XSD FORMAT
FDSD	Numeric/decimal	Y	Y	Standard deviation of Fibre Diameter		industry/breeders/SG - XSD FORMAT
GFW	Numeric/decimal	Y	Y	Greasy Fleece Weight	whole fleece wt (including belly)in kg prior to skirting	industry/breeders/SG - XSD FORMAT
CFW	Numeric/decimal	Y	Y	Clean Fleece Weight	CFW = GFW x YLD / 100	industry/breeders/SG - XSD FORMAT
CFW%	Numeric/decimal			Clean Fleece Weight Percentage		industry/breeders/SG - XSD FORMAT
YLD	Numeric/decimal	Y	Y	Yield % - Washing yield @ 16% regain	Percentage yield of CFW compared to GFW	industry/breeders/SG - XSD FORMAT
SL	Numeric/decimal	Y	Y	Mean Staple Length (mm)		industry/breeders/SG - XSD FORMAT
SS	Numeric/decimal	Y	Y	Mean Staple Strength	Newtons per kilotex (N/kt)	industry/breeders/SG - XSD FORMAT
CURV	Numeric/deci	Y	Y	Fibre Curvature	A mean measure of crimp reported as degrees/mm	industry/breeders/SG - XSD

	mal					FORMAT
CURVESD	Numeric/decimal	Y	Y	Standard deviation of Curvature	measured in degrees/mm	industry/breeders/SG - XSD FORMAT
FDSF	Numeric/decimal	Y	Y	Spinning Fineness		industry/breeders/SG - XSD FORMAT
FCF	Numeric/decimal	Y	Y	Comfort Factor of fleece	% fibres finer than 30 microns in a sample	industry/breeders/SG - XSD FORMAT
CEM	Numeric/decimal	Y	Y	Course Edge of Micron/Fibre Diameter	difference in microns between mean FD & broadest 5% of fibres	industry/breeders/SG - XSD FORMAT
FDPF	Numeric/decimal			Prickle (should not be used-use comfort instead)	obsolete	industry
Trait Code	Data Input Code	XML-YES	STAGE CODES PREFIXED	Wool in bales qualifying Description	Notes	Reference
WOOL QUALITY QUALIFICATION	T			Qualifier not required	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	H			Unscourable colour	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	M			Scourable colour/creamy	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	S			Dark Stain	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	C			Cotts	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	J			Jowls	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	A			Dermatitis	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	K			Shanks	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	Q			Dags	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	E			Necks (Not Scaled)	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	N			Water Stain	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	R			Brands	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY	G			Doggy (Not Scaled)	WIEDPUG Qualifier Codes (1-5)	WIEDPUG

QUALIFICATION						
WOOL QUALITY QUALIFICATION	D			Mud	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	V			Skin pieces	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	P			Kemp	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	Y			Black & Grey	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	F			Soft Cotts	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
WOOL QUALITY QUALIFICATION	U			Sweat/Frib	WIEDPUG Qualifier Codes (1-5)	WIEDPUG
Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Dohne Grading Description	Notes	Reference
Dohne EG	AA			Dohne inspectors grade each registered animal visual performance	Dohne Efficiency Grade	Australian Dohne Breeders Association
Dohne EG	C			Dohne inspectors grade each registered animal visual performance	Dohne Efficiency Grade	Australian Dohne Breeders Association
Dohne PG	AA			Index values are summarised into 4 measured performance grades	Dohne Product Grade	Australian Dohne Breeders Association
Dohne PG	C			Index values are summarised into 4 measured performance grades	Dohne Product Grade	Australian Dohne Breeders Association
Dohne FG	AA			Combined Product and Efficiency Grade	Dohne Final Grade	Australian Dohne Breeders Association
Dohne FG	C			Combined Product and Efficiency Grade	Dohne Final Grade	Australian Dohne Breeders Association
Dohne EG	A			Second highest efficiency grade	DohneEfficienceGrade	Australian Dohne Breeders Association
Dohne FG	A			Second highest final grade	DohneFinalGrade	Australian Dohne Breeders Association
Dohne PG	A			Second highest product grade	DohneProductGrade	Australian Dohne Breeders Association

Dohne Frame Size	A			"71 cm or more height at the withers (description ""Large"")"	FrameSize	Australian Dohne Breeders Association
Dohne EG	AA			Highest grade. Efficiency grade is the grade given by Dohne inspectors for visual performance of the animal.	DohneEfficienceGrade	Australian Dohne Breeders Association
Dohne FG	AA			Highest final grade. It is the combined grade of the product and efficiency grades.	DohneFinalGrade	Australian Dohne Breeders Association
Dohne PG	AA			Highest grade. Dohne Product grade is the index value summarised into 1 of 4 measured performance grades	DohneProductGrade	Australian Dohne Breeders Association
Dohne EG	B			Third highest efficiency grade	DohneEfficienceGrade	Australian Dohne Breeders Association
Dohne FG	B			Third highest final grade	DohneFinalGrade	Australian Dohne Breeders Association
Dohne PG	B			Third highest product grade	DohneProductGrade	Australian Dohne Breeders Association
Dohne Frame Size	B			"66-70 cm height at the withers (description ""Medium"")"	FrameSize	Australian Dohne Breeders Association
Dohne EG	C			Lowest efficiency grade	DohneEfficienceGrade	Australian Dohne Breeders Association
Dohne FG	C			Lowest final grade	DohneFinalGrade	Australian Dohne Breeders Association
Dohne PG	C			Lowest product grade	DohneProductGrade	Australian Dohne Breeders Association
Dohne Frame Size	C			"61-65 cm height at the withers (description ""Medium"")"	FrameSize	Australian Dohne Breeders Association
Dohne Frame Size	D			"56-60 cm height at the withers (description ""Medium"")"	FrameSize	Australian Dohne Breeders Association
Dohne Frame Size	E			"55 or less cm height at the withers (description ""Small"")"	FrameSize	Australian Dohne Breeders Association

Trait Code	Data Input Code	XML -YES	STAGE CODES PREFIXED	Dentition Description	Notes	Reference
Dentition	NIL			No permanent incisor teeth - Birth to approx 15 months of age		TD
Dentition	MU0			No permanent upper molar teeth - Birth to approx 5 months of age		TD
Dentition	MU1			Evidence of eruption of first permanent upper molar teeth - Erupts at approx 3-5 months of age		TD
Dentition	IN2			Evidence of eruption of one but not more than two permanent incisor teeth - First tooth erupts at approx 12-20 months of age		TD
Dentition	IN4			Evidence of eruption of three but not more than four permanent incisor teeth - Third tooth erupts at approx 18-32 months of age		TD
Dentition	IN6			Evidence of eruption of five but not more than six permanent incisor teeth - Fifth tooth erupts at approx 30-45 months of age		TD
Dentition	IN8			Evidence of eruption of seven or more permanent incisor teeth - Seventh tooth erupts at approx 42 months of age		TD

Research

1. Sheep Genetics, *Making More from Sheep Genetics*
2. Sheep Genetics, *A Pocket Guide to ASBVs*
3. Sheep Genetics, *SGA Breeder's Quality Assurance Manual*
4. Sheep Genetics Website
5. MLA Website
6. AMSEA Sire Evaluation Reports*, Understanding the Results*
7. Australian Wool Testing Authority Ltd, *Glossary of Terms*
8. AWTA Website*, Data file Formats used in Fleece Measurement*
9. Wool Industry (Brokers) EDP User Group, Terminology
10. Balmoral Breeders Newsletter October 2012
11. MLA – National Meat & Livestock Data Dictionary
12. Sheep CRC website
13. Stockbook website – Ruddweigh Trait Recording
14. Lucinda Hogan, Project Leader, Sheep CRC
15. Steve Semple, NSW
16. Tim Dyall, CSIRO Armidale – from previous work undertaken in 2004
17. Tim Steere, Sampling Operations Manager, Australian Wool Testing Authority
18. Sam Gill, Sheep Genetics
19. David Rubie, Sheep Genetics
20. Stephen Field, MLA/Sheep Genetics
21. Robert Wylde, Sapien Technology
22. Andrew Donoghue, Practical Systems
23. Dan Loughnane, Gallagher
24. Mike Hemsley, Gallagher
25. Geoff Chadwick, Gallagher
26. Steven Whitaker, Trutest
27. Geoff Ross, Trutest
28. Susan Jarvis, Genetic provider
29. Access to various breeder files from test houses and contractors to view heading and file formats
30. Debbie & Steve Milne – traits codes used in conducting Data Smart workshops
31. Pat Gunston, Allflex
32. Various product suppliers