



Interbeef Country Feedback Australia.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.

1. Breeds, Traits & Genotyping



- Please complete xls spreadsheet for main beef breeds, traits and level of genotyping within your National genetic evaluations.

Breed	# animals per year			# Genotypes (total/pa)
	Growth	Fertility	Scan/Carcase	
Angus	65k	20k	30k/2k	20k/10k
Hereford	17k	5k	10k/	2.5k/1k
Shorthorn	5k	2k	3.5k	N/A
Wagyu	2.5k	0.5k	.5k/1k	2.5k/1.5k
Brahman	9k	3k	2.5k/0.5k	15k/5k
Tropical composite	9k	2k	6k/0k	10k/1.5k
Charolais	5k	1.5k	2k/0k	1k/?
Limousin	4k	1k	1k/0k	1k/?
Simmental	2k	0.5k	1k/0k	0.5k/?



2. Current Areas of Priority.

- Please complete the current areas of work priority within your National beef evaluations system. Please list a max of 5 in order of priority.
 - Single step for main breeds
 - Extending reproduction analysis to utilise data from AI and ET matings as well as natural service
 - Updating genetic parameters for Angus including new carcass and eating quality traits/full parameter matrix for Wagyu
 - Extending international analyses
 - Scoping across-breed evaluations, either as a stand-alone, and/or to complement within-breed analysis (already include crossbred data in several breed analyses)

3. Impact of new EU legislation.



- Will the new EU legislation impact how genetic evaluations/improvement will be undertaken in your country? If so, how?
 - N/A



4. Topics/areas of Interest.

- What are the topics/areas of interest that you would like ICAR/Interbeef to consider at its workshop on Tuesday 13 June. Please list a max of 5 in order of preference.
 - Breeding objectives in different countries
 - Planning international reference populations and developing policy for sharing reference data
 - International genomic relatedness
 - Countries' approaches to handling very much larger datasets

5. Benefits of ICAR-Interbeef.



- What do you see as the major benefits of participation in ICAR-Interbeef for your country. Please list a maximum of 5, in priority order.
 - Potential to draw on data (genotypes, phenotypes) for research and reference populations
 - Discussion of implementation challenges esp. interaction with industry - this meeting seems to focus on estimation etc ie technical aspects of combining datasets, when the more strategic questions are around how INTERBEEF actually helps genetic improvement in each country – more on outcomes, as well as process



Interbeef Country Feedback Germany.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.



1. Breeds, Traits & Genotyping

- Please complete xls spreadsheet for main beef breeds, traits and level of genotyping within your National genetic evaluations.

Table 1. Overview of National Evaluation

Traits	Breed1: Charolais			Breed2: Limousin		
	Number of animals*	Type of evaluation**	Comment (trait details, type of models...)	Number of animals	Type of evaluation	Comment (trait details, type of models...)
Calving	40,492	conventional	not published	39,562	conventional	not published
Weaning weight	100,707	conventional	200-days-weight, MTAM (dir., mat.)	103,243	conventional	200-days-weight, MTAM (dir., mat.)
Live-weight	77,545	conventional	365-days-weight, MTAM	77,235	conventional	365-days-weight, MTAM
Feed Intake						
Carcass predictors - linear scores	58,551	conventional	365-days-muscle-score, MTAM	60,796	conventional	365-days-muscle-score, MTAM
Carcass predictors - ultrasound						
Carcass Traits (e.g., wt, conf, fat)						
Gestation Length						
Dociility/temperament						
Meat eating quality						
Female fertility	40,492	conventional	calving interval, AM	39,562	conventional	calving interval, AM
Cow survival/longevity	40,492	conventional	number of calvings, Survival Kit	39,562	conventional	number of calvings, Survival Kit
Cow docility/temperament						
age at 1st calving	40,492	conventional	not published, AM	39,562	conventional	not published, AM
stillbirth	40,492	conventional	AM	39,562	conventional	AM

* Approx number of animals with data for the given trait included in the National evaluation
 ** Type of evaluation. Conventional or genomic.

Table 2. Overview of level of genotyping

Category	Breed1:	Breed2: Limousin
AI Sires		
Other males		approx. 300
Females		

* % Pure-bred animals of the given breed with SNP genotypes

AM = Animal Model
 MTAM = Multi Trait Animal Model



1. Breeds, Traits & Genotyping

- Please complete xls spreadsheet for main beef breeds, traits and level of genotyping within your National genetic evaluations.

Traits	Breed3: Simmental			Breed4: Angus		
	Number of animals*	Type of evaluation**	Comment (trait details, type of models...)	Number of animals	Type of evaluation	Comment (trait details, type of models...)
Calving	53,716	conventional	not published	37,125	conventional	not published
Weaning weight	107,611	conventional	200-days-weight, MTAM (dir., mat.)	98,904	conventional	200-days-weight, MTAM (dir., mat.)
Live-weight	58,506	conventional	365-days-weight, MTAM	80,068	conventional	365-days-weight, MTAM
Feed Intake						
Carcass predictors - linear scores	47,073	conventional	365-days-muscle-score, MTAM	54,998	conventional	365-days-muscle-score, MTAM
Carcass predictors - ultrasound						
Carcass Traits (e.g., wt, conf, fat)						
Gestation Length						
Docility/temperament						
Meat eating quality						
Female fertility	53,716	conventional	calving interval, AM	37,125	conventional	calving interval, AM
Cow survival/longevity	53,716	conventional	number of calvings, Survival Kit	37,125	conventional	number of calvings, Survival Kit
Cow docility/temperament						
age at 1st calving	53,716	conventional	not published, AM	37,125	conventional	not published, AM
stillbirth	53,716	conventional	AM	37,125	conventional	AM

* Approx number of animals with data for the given trait included in the National evaluation

** Type of evaluation. Conventional or genomic.

Category	Breed1:	Breed2:
AI Sires		
Other males		
Females		

* % Pure-bred animals of the given breed with SNP genotypes

AM = Animal Model
 MTAM = Multi Trait Animal Model



2. Current Areas of Priority.

- Please complete the current areas of work priority within your National beef evaluations system. Please list a max of 5 in order of priority.

DEU

- Combination of Interbeef and nat. EBV's
- Improving quality of data (rel. of subj. info, registr. valuer)
- Calving (direct): rel. of weights and classif. of calv. Ease
- Including carcass data (which and how)

3. Impact of new EU legislation.



- Will the new EU legislation impact how genetic evaluations/improvement will be undertaken in your country? If so, how?

DEU

- Not clear now (we expect no)



4. Topics/areas of Interest.

- What are the topics/areas of interest that you would like ICAR/Interbeef to consider at its workshop on Tuesday 13 June. Please list a max of 5 in order of preference.

DEU

- Harmonization of traits and data collection (how to combine with Breedplan, ...)
- Taking more countries and breeds in (listing all which are in!)
- International top list publicated by Interbeef
- Way of working: reducing costs of meetings (where, ICAR?)



5. Benefits of ICAR-Interbeef.

- What do you see as the major benefits of participation in ICAR-Interbeef for your country. Please list a maximum of 5, in priority order.

DEU

- Short term:
 - Participation of internat. know how
 - National improvement depending on comparability and competit.
- Long term:
 - More realistic EBV's
 - Better selection (as well worldwide)
 - Increasing genetic gain, and more/better marketing



Interbeef Country Feedback Denmark, Finland & Sweden.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.

1. Breeds, Traits & Genotyping



- Please complete xls spreadsheet for main beef breeds, traits and level of genotyping within your National genetic evaluations.

From NAV beef meeting 30 June 2016

For the common 6 traits (BW, CAE, AWW, YW, SW, SCONF)¹

and common 6 breeds (ANG; CHA; HER; HIG, LIM; SIM)²

No of animals with records in latest national evaluations³

In next slide (not in template), Emma summed up no of animals with records for D+F+S⁴



NAV Beef
ing_summary NGI

1 We also evaluate slaughter fat in F and S, calf size and still birth in DNK and Calf survival, fertility, conformation traits

2 BLD is also evaluated separately in FIN and SWE and included in DNK

3 Type of evaluation are all traditional based on phenotypes, no genomic evaluation; we run MT AM but more details about traits and models in included pdf

*4 Dnk: Numbers include data from Crossbreeds (Beef*dairy) for slaughter and calving traits + some numerous smaller breeds for all traits*

For the common 6 traits and 6 breeds in D, F and S*: Summed no of animals with records in latest national evaluations (201605)

*Dnk: Numbers include data from Crossbreds (Beef*dairy) for slaughter and calving traits + some numerous smaller breeds for all traits

ANG+shorthorn, HIG + Dexter, LIM + Piemontese, Blond D'Aquitaine and Belgian Blue, SIM + Brown Schweitz, Grauvieh, Gelbvieh, Saler, Galloway

	ANG	CHA	HER	HIG	LIM	SIM
BW	105172	275032	247567	43791	244058	154100
AWW	47018	166629	132357	9874	94529	70707
YW	34034	129355	104212	8326	78407	52804
SW	92211	128519	185692	13177	235404	124929
SCONF	72685	112510	135381	6593	190559	95480
CAE	156888	301177	352897	81794	390267	241878



2. Current Areas of Priority.

- Please complete the current areas of work priority within your National beef evaluations system. Please list a max of 5 in order of priority.
 1. *Develop a joint NAV evaluation for beef AI bulls used on dairy cows for calving and carcass traits*
 2. *Continue to work for an efficient and improved joint NAV evaluation for pure beef breed*
 3. *Active participation in Interbeef cooperation for traditional evaluations*
 4. *Be part of a future genomic prediction via Interbeef*

3. Impact of new EU legislation.



- Will the new EU legislation impact how genetic evaluations/improvement will be undertaken in your country? If so, how?

It will have no impact of genetic evaluation in DFS because Växa Sverige/Seges are the official breed organizations for the breeds we evaluate in SWE/DNK (similar situation in Finland)



4. Topics/areas of Interest.

- What are the topics/areas of interest that you would like ICAR/Interbeef to consider at its workshop on Tuesday 13 June. Please list a max of 5 in order of preference.
 1. *Extension of traditional IB evaluations to include more traits and breeds (and a time plan)*
 2. *Future cooperation on genomic prediction*

5. Benefits of ICAR-Interbeef.



- What do you see as the major benefits of participation in ICAR-Interbeef for your country. Please list a maximum of 5, in priority order.
- *Possibility for future genomic prediction also for countries with small populations*
- *Important network for exchange of ideas and results within beef genetic/genomic evaluation*
- *Fair comparison of beef bulls across countries (more useful when more traits available)...*
- *Development of more efficient evaluation methods, especially with the new technic, GEBV (quite expensive to set up or improve methods nationally)*



Interbeef Country Feedback Ireland.

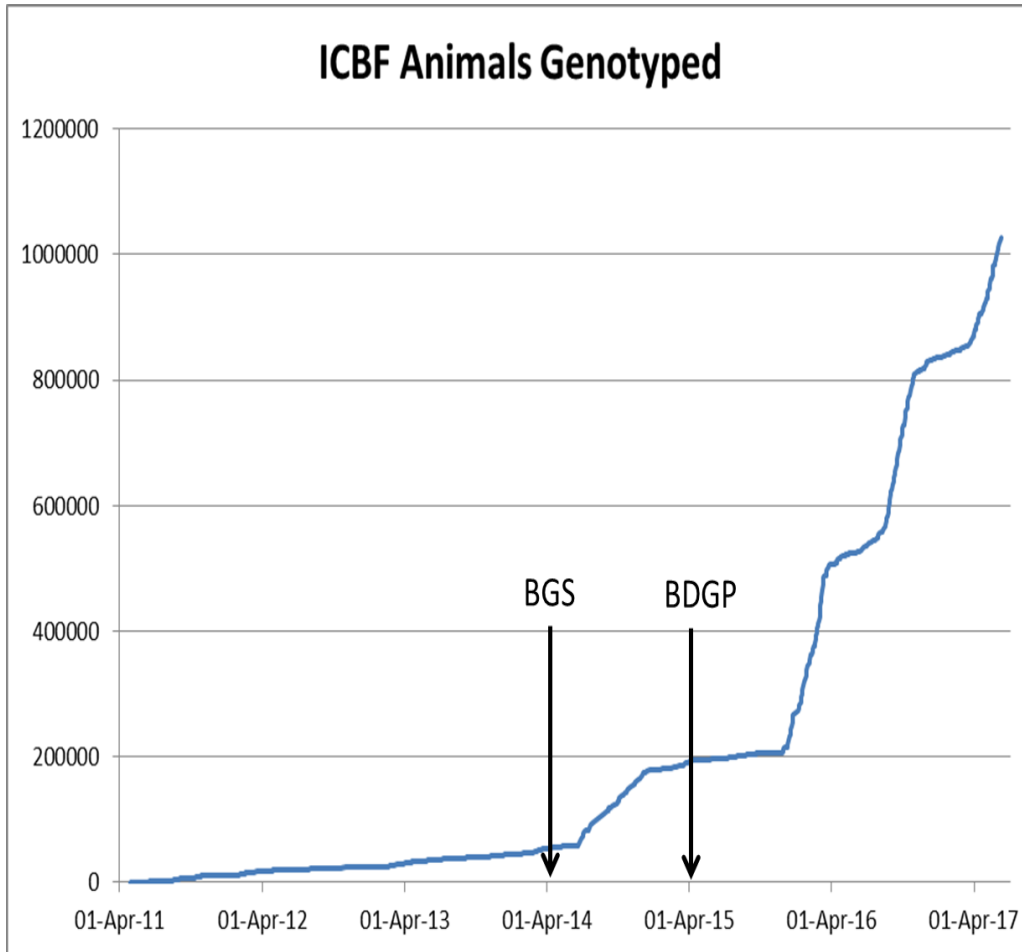
Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.

Breed, traits & genotyping

Breed	genotyped	calving	weaning wt	linear score	feed intake	cow live wt	milkability	age 1st Calving	calving interval
Angus	99,550	1,268,507	47,050	7,865	408	28,984	209,492	252,834	493,458
Aubrac	6,379	44,767	3,796	1,909	55	1,434	10,722	7,474	21,983
Blonde'DA	8,481	84,383	9,598	2,174	127	2,921	24,422	20,941	43,856
Belgian Blue	37,842	497,664	74,008	10,651	284	17,041	103,122	117,291	217,765
Charolais	223,694	2,587,395	456,113	82,618	1,222	62,872	471,823	488,617	945,215
Hereford	55,229	622,915	18,846	5,951	213	15,568	146,478	190,523	301,602
Holstein	114,031	3,873,168	53,545	124	2	553,306	85,895	176,117	191,820
Limousin	329,025	2,556,140	310,932	99,863	1,893	83,051	732,870	640,296	1,330,716
Piemontese	2,040	13,692	1,306	1,004	22	587	3,522	2,824	6,797
Parthenaise	7,173	40,827	4,124	1,047	64	1,173	9,600	6,565	12,510
Saler	17,949	91,771	8,951	2,266	159	3,945	40,285	29,188	73,912
Shorthorn	17,930	80,054	9,282	1,094	33	8,241	50,265	65,119	134,257
Simmental	80,144	444,770	55,032	21,075	1,143	25,762	235,007	237,057	451,272

Genotyping details



Class	Total
Female	851,718
Male	156,544
Dairy Female	49,988
Dairy Male	61,134
Beef Female	801,679
Beef Male	90,347
AI bull	5,114

Chip	Num_SNPs	%
LD	7k	0.29%
HD	780k	0.63%
50K	50k	1.92%
IDBv1	16k	3.68%
IDBv2	18k	19.14%
IDBv3	53k	72.24%



2. Current Areas of Priority.

- Whole herd performance recording for pedigree herds;
 - Replacement index has 23% weighting on cow intake. Capture of cow traits on farm (weight, docility, functionality).
- Combination of Interbeef and national EBV's
 - Currently use the approach of Bonati and Boichard to create correlated traits based on back calculated DYDs from foreign ebvs
 - New approach to use the INTERBEEF ebvs will need to avoid double counting
- New Traits; Carcass cut data and meat eating quality. Feed Intake/GHG – especially females. Calf Size.
- Single step solutions with large scale genotyping

3. Impact of new EU legislation.



- Will the new EU legislation impact how genetic evaluations/improvement will be undertaken in your country? If so, how?
 - Not expected to, as breed associations are shareholding members of ICBF.



4. Topics/areas of Interest.

- More breeds, priority of Angus & Hereford.
- More countries for existing breeds.
- More traits, especially feed intake/GHG (with respect to females).
- Integrating National and International EBV's.
- Storing and sharing genotypes.

5. Benefits of ICAR-Interbeef.



- Independent genetic evaluations.
- Source of key data for National genetic evaluations.
 - Single point of contact as opposed to the current approach of getting EBV's from multiple countries.
- Networking & exchange.



Interbeef Country Feedback UK & Northern Ireland.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.

1. Breeds, Traits & Genotyping



Table 1. Overview of National Evaluation

Traits	Breed1: LIMOUSIN			Breed2: STABILISER				
	Number of animals*	Type of evaluation**	Comment (trait details, type of models...)	Number of animals	Type of evaluation	Comment (trait details, type of models...)		
Calving	52346	conventional	calving interval	13894	conventional			
Weaning weight	157726	conventional		66990	conventional			
Live-weight	99461	conventional	400-d weight	29502	conventional	400-d weight		
Feed Intake				1220	conventional	net feed intake		
Carcass predictors - linear scores	30057	conventional	scanning muscle score	1114	conventional			
Carcass predictors - ultrasound	36524	conventional	muscle depth, fat depth	6834	conventional	muscle depth, fat depth		
Carcass Traits (e.g., wt, conf, fat)	all genomic, listed below							
Gestation Length	125283	conventional		284	conventional			
Docility/temperament	5509	conventional	docility					
Meat eating quality								
Female fertility	104941	conventional	age first calving	15117	conventional	age first calving		
Cow survival/longevity								
Cow docility/temperament								
Birth weight	220523	conventional		75830	conventional			
Calving value	158825	conventional	calving ease score	63215	conventional			
Scrotal Circumference	6015	conventional						
Life span	80200	conventional		17560	conventional			
Carcass weight	100566	genomic						
Fillet								
Striploin								
Rump								
Topside								
Silverside								
Knuckle								
Retail Value								
age at first calf			507300 animals with 4180 genotypes	genomic	new research project, to be finished in June and then included in the national evaluation scheme			
calving interval								
female longevity								
calf survival								

* Approx number of animals with data for the given trait included in the National evaluation

** Type of evaluation. Conventional or genomic.

Table 2. Overview of level of genotyping

Category	Breed1: LIMOUSIN	Breed2: STABILISER
AI Sires	218	
Other males	2168	
Females	1592	

total: 3978 (used in last national evaluation)

* % Pure-bred animals of the given breed with SNP genotypes



2. Current Areas of Priority.

- Incorporating Interbeef aww EBV into national evaluation for Limousin cattle
 - Introduce genomic to the other beef breeds
 - Feed intake / Feed efficiency
 - Greenhouse gas emission
- } hot topics worldwide

3. Impact of new EU legislation.



BREXIT

- Greater costs of export/import
- Greater move to pig and poultry model by international breeding companies



4. Topics/areas of Interest.

- quicker development of new traits
- carcass traits evaluations
- international pedigree for beef
- exchange of genotypes

5. Benefits of ICAR-Interbeef.



- international proofs
- better reliabilities for UK animals used abroad
- better information for importing semen
- protection from international breeding companies



Interbeef Country Feedback FRANCE

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017.

1. Breeds, Traits & Genotyping



Table 1. Overview of National Evaluation						
Traits	Breed1: Charolais			Breed2: Limousine		
	Number of animals*	Type of evaluation**	Comment (trait details, type of models...)	Number of animals	Type of evaluation	Comment (trait details, type of models...)
Calving (BIRTH WEIGHT - CALVING EASE)	8526413	conventional/genomic	*** multitraits BW/CAE (Chest girth--> BW)	5059397	conventional/genomic	*** multitraits BW/CAE (Chest girth--> BW)
Weaning weight	4467767	conventional/genomic	*** multitraits AW 210 days and AW120 days	2811326	conventional/genomic	*** multitraits AW 210 days and AW120 days
Live-weight (AW at 24 MONTHS)	356140	conventional	**** multitraits for heifers AW 24M/AW18M/AW12M	117714	conventional	**** multitraits for heifers AW 24M/AW18M/AW12M
Feed Intake	3000	conventional	on-station evaluation for young bulls	1075	conventional	on-station evaluation for young bulls
Carcass predictors - linear scores (AT WEANING)	4605364	conventional/genomic	*** multitraits MD/SD/bone slimness	2683325	conventional/genomic	*** multitraits MD/SD/bone slimness
Carcass predictors - ultrasound						
Carcass Traits (e.g., wt, conf, fat) (YOUNG BULLS PRODUCTION/VEAL PRODUCTION)	427946/232580	conventional/genomic	***/** multitraits CW/slaughter age/EUROP classification	186676/148988	conventional/genomic	***/** multitraits CW/slaughter age/EUROP classification
Gestation Length						
Docity/temperament (SCORE / NB MOVMENTS)	220061/53950	conventional	**** 2 traits linear scoring and number of movments in weighing scale	318823/83959	conventional	**** 2 traits linear scoring and number of movments in weighing scale
Meat eating quality						
Female fertility		conventional	**** AI sucess		conventional	**** AI sucess
Cow survival/longevity		conventional	**** number of calves at about 6,5 years old		conventional	**** number of calves at about 6,5 years old
Cow docility/temperament						
Others... (add lines)						
Linear score at 30 months (heifers)	366678	conventional	**** multi-traits muscular, skeletal, funtional abilities...	312051	conventional	**** multi-traits muscular, skeletal, funtional abilities...
* Approx number of animals with data for the given trait included in the National evaluation			**** 2 official evaluations per year			
** Type of evaluation. Conventional or genomic.			conventional and genomic (2 steps) and genomic evaluations each weeks			

Table 2. Overview of level of genotyping		
Category	Breed1: Charolais	Breed2: Limousin
AI Sires		
Other males		
Females		



2. Current Areas of Priority.

- Genomic developments
 - implementation of Single-step method: interest and feasibility test for all French beef cattle breeds
- Calving:
 - Multi-traits for calving with BW/CAE/chest girth
 - Developing new genetic evaluations on calving using Beef x Dairy crossbred data (INRA95 & BB included)
- Feed efficiency:
 - Project on different animals types and life period (growth, fattening, female productive life).
- Precocity improvement:
 - development of new genetic tools to select precocity, to work on the growth curves and to control the carcass weight of cull cows
- Phantom groups definition and inclusion in genetic evaluation

3. Impact of new EU legislation.



- Large impact on French national genetic evaluation organisation
 - INRA no longer responsible of routine genetic evaluations
 - French Livestock Institute no longer responsible of official release of EBVs
 - => current discussion between all partners to define the new organisation
 - => new mutualized professional structure discussed for routine evaluation.
- New national organisation to pilot the French genetic scheme?
 - Not France Génétique Elevage anymore?
 - => New umbrella organisation composed by all breed societies



4. Topics/areas of Interest.

- Research collaboration in the area of new traits or complex traits:
 - feed efficiency,
 - greenhouse gas emission,
 - ...
- Study of interest of exchange genotypes...
- New Interbeef traits: carcass traits, fertility traits...
- New breeds: Blonde d'Aquitaine, Hereford and Angus

5. Benefits of ICAR-Interbeef.



- Objective international EBVs
- Better knowledge of French bulls in all country scales
- Technical exchange between countries
- Development of international collaborations (complex traits and genomic) and European project submissions



Interbeef Country Feedback Switzerland.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017

1. Breeds, Traits & Genotyping



Table 1. Overview of National Evaluation					
Traits		Breed1: Angus	Breed2: Charolais	Breed3: Limousin	Breed4: Simmental
	Type of evaluation**	Number of animals*	Number of animals	Number of animals	Number of animals
Calving	Conventional	2200	540	4950	5600
Weaning weight	Conventional	13600	4190	16200	12850
Live-weight					
Feed Intake					
Carcass predictors - linear scores					
Carcass predictors - ultrasound					
Carcass Traits (e.g., wt, conf, fat)	Conventional	11500	2700	11900	113138
Gestation Length					
Docility/temperament					
Meat eating quality					
Female fertility					
Cow survival/longevity					
Cow docility/temperament					
Others... (add lines)					

* Approx number of animals with data for the given trait included in the National evaluation

** Type of evaluation. Conventional or genomic.

Table 2. Overview of level of genotyping

Category	Breed1:	Breed2:
AI Sires		
Other males		
Females		

* % Pure-bred animals of the given breed with SNP genotypes



2. Current Areas of Priority.

- Please complete the current areas of work priority within your National beef evaluations system. Please list a max of 5 in order of priority.
- Development of “Fat EBV”
- SNP Parentage Verification
- Extend weaning weight EBV with slaughter data
- Genomic Selection for SM, LM, BV
- EBV for Linear scoring

3. Impact of new EU legislation.



- Will the new EU legislation impact how genetic evaluations/improvement will be undertaken in your country? If so, how?

The Swiss government is looking at the impact of the new EU legislation. As Switzerland is not a member of the EU we can't take any position about this new EU legislation.



4. Topics/areas of Interest.

- What are the topics/areas of interest that you would like ICAR/Interbeef to consider at its workshop on Tuesday 13 June. Please list a max of 5 in order of preference.
- GenoEx-PSE
- Beef quality traits and recording (regulation of phenotype collection)
- Carcass traits with crossbreed
- Angus as a new breed in Interbeef
- Genomic selection

5. Benefits of ICAR-Interbeef.



- What do you see as the major benefits of participation in ICAR-Interbeef for your country. Please list a maximum of 5, in priority order.
- Exchange of know-how
- International platform for beef cattle
- International comparable EBV's
- International collaboration in the interest of beef breeders



Interbeef Country Feedback South Africa.

Interbeef Meeting.

Edinburgh, 12 & 13 June 2017

1. Breeds, Traits & Genotyping



- Bonsmara is the largest breed.
 - 32k birth-weights/year and 2,500 animals genotyped.
- Beefmaster also popular.
- Interested in participating in Interbeef for Hereford and possibly Charolais.