Grand Champion B&W, NRM 2017, Bons Holstein Ella 158

Update Genetic Recessive exchange

EHRC Budapest 2017, Jos Buiting, CRV-Herdbook

Genetic Traits as reported on the WHFF website (accessed on 28 March 2017).

C = carrier F = tested free or non-carrier

Gene Name	Description	Gene and Expression Code
BLAD	**Bovine Leukocyte Adhesion Deficiency** (deficiency of a normally occurring protein needed for white blood cells or leukocytes, which are body's infection fighters)	**BLC** = tested carrier of BLAD **BLF** = tested non-carrier of BLAD
Mule foot	**Mule-Foot** (toes of foot are joined, giving animal a single hoof, instead of cloven ones)	**MFC** = tested carrier of Mule foot **MFF** = tested non-carrier of Mule foot
DUMPS	**Deficiency of Uridine Monophosphate Synthase** (one of many enzymes contributing to normal metabolic processes)	**DPC** = tested carrier of DUMPS **DPF** = tested non-carrier of DUMPS
CVM	**Complex Vertebral Malformation** (causes still-born calves, abortions, and early embryonic losses)	**CVC** = tested carrier of CVM **CVF** = tested non-carrier of CVM
Factor X1	**Factor X1** (blood clotting disorder)	**XIC** = tested carrier of Factor X1 **XIF** = tested non-carrier of Factor X1
CIT	**Citrullinemia** (accumulation of ammonia and other toxics in blood in baby calves)	**CNC** = tested carrier of Citrullinemia **CNF** = tested non-carrier of Citrullinemia
Brachyspina	**Brachyspina** (causes abortion and stillborn, shortened spinal cord, long legs and abnormal organs)	**BYC** = tested carrier of Brachyspina **BYF** – tested non-carrier of Brachyspina
Polled	Animals without horns (reported born hornless- - Not Tested).	**POR** = code
Polled (Current-Indirect Test)	Indirect Test	**POS** = tested true polled (homozygous PP) **POC** = tested carrier of polled (heterozygous Pp) **POF** = tested free of polled
Polled (Future)	When a direct test becomes available. Direct test code will "trump" test code on animal record	Further Information Click Here
Cholesterol Deficiency	Cholesterol Deficiency	**CDF** = tested non-carrier / free of cholesterol deficiency **CDC** = tested carrier of cholesterol deficiency

Genetic Recessive exchange data by interbull

Present situation = manual exchange

→ bull tested in country A, with recessive BLC and MFC

→ registered in the national herdbook of country A

→ bull owner send a press release (or not …)

→ distributors and herdbooks in other countries have to register this data, manually

So Registration of GR's is not complete

Breeders are not always fully informed

→ Damage when carriers are mated

WHFF Proposal

WHFF idea: October 2016 to contact Interbull

- Proposal to exchange the data per bull

  3 times per year, with the breeding value estimations
- Datacenters / herdbooks per country can add the recessive information per bull (input)

  The Genetic Recessives are send back with the BV's (output)
- Calculation centre / Herdbook can update it's information

WHFF board and Interbull fully agreed

→ tested the procedure with 3 countries in spring 2017

First test results

→ Test with: VIT, Germany
SAC, United Kingdom
CRV, Netherlands and Flanders (B)

→ Input 230,000 records on some 100.000 unique animals: 95.000 bulls & 5.000 females

→ Output 265,000 records with GR information

Datacentre	Input	Output	Extra GR's
VIT	111,944	127,498	13,3%
SAC	56,323	71,037	26,1%
CRV	62,339	66,987	7,5%

→ Source: CRV, Mathijs van Pelt

→ Remark: difference partly due to Direct / Indirect tests

→ Results are very promising (in a test with only 3 countries)

Conclusions

→ Automized data exchange of Genetic Recessives,

gives significant additional value

→ Excellent co-operation between WHFF (EHRC) and Interbull

→ We will start with Holstein, as WHFF-members

→ Other breeds have already shown interest

→ Procedures will be finalized (WHFF / Interbull)

- include Indirect tests (haplotypes) or not?
- include fenotypical data (i.e. Polled) or not?
- how to solve conflicting input?

→Exchange expected to be in production end of 2017

It will help breeders to avoid problems

Thanks for your attention

Grand Champion B&W, NRM 2017, Plattery Princess