DNA Technology

SimGenetics
PROFIT THROUGH SCIENCE
American Simmental Association

Beef Improvement Federation Position Statement (11/07)

"BIF believes that **information from DNA tests only has value** in selection **when incorporated** with all other forms of performance information for economically important traits **in National Cattle Evaluation**, and when **communicated in the form of an EPD with a corresponding accuracy"**.

DNA

Phenotypes

ASA Multi-Breed Cattle Evaluation

EPD

Development of ASA's Test

- ✓ Gathered approx. 3000 DNA samples
- ✓ Collected millions of phenotypes
- ✓ Genotyped samples w/ 50K & 700K SNP panels
- ✓ Built infrastructure for incorporation into genetic evaluation

The results are in…

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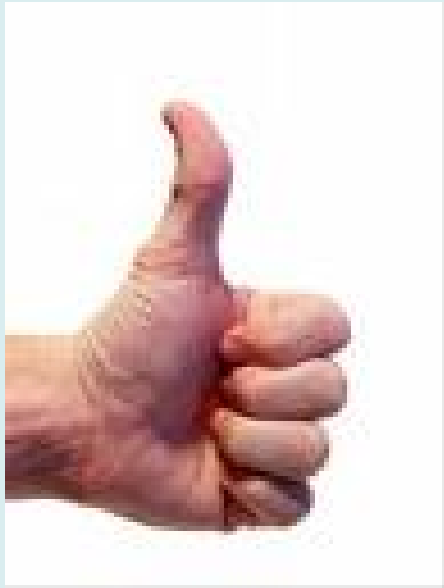
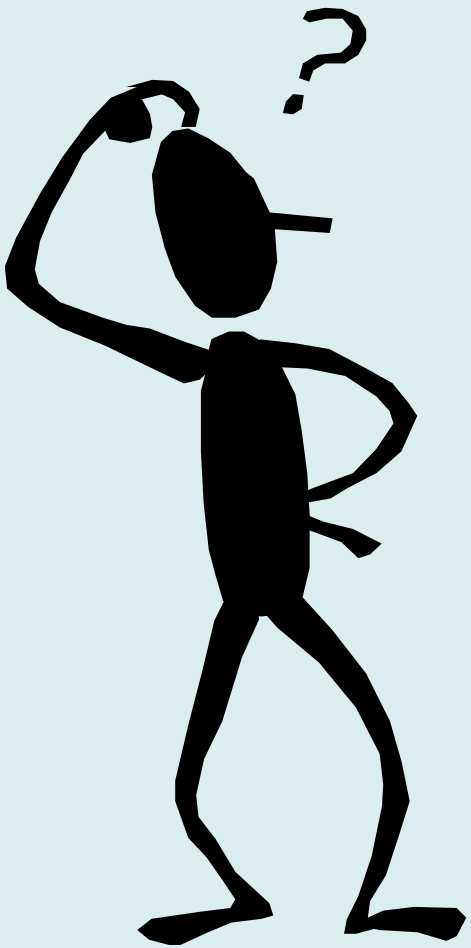
ASA's 50K DNA Test…

% of genetic variation accounted for by test

Trait	Igenity	Pfizer	ASA
CE	22	11	20
BW	32	26	42
WW	20	27	27
YW	12	41	20
Mlk	6	10	12
MCE	NA	NA	10
Stay	NA	NA	34
CW	29	23	35
Mrb	42	32	40
REA	34	36	35
BF	25	31	8
SF	NA	NA	28



Translated into Something Meaningful…



Trait	Progeny Equivalent
CE	5
BW	6
WW	4
YW	3
Mlk	3
MCE	3
Stay	9
CW	4
SF	6
Mrb	4
U Mrb	10
REA	4
U REA	8
BF	1
U BF	1

ASA DNA 50K

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Contribution varies by population and animals within population…

Progeny Equivalents

Trait	Avg	Simmental	SimAngus	Simbrah
CE	5	4	5	3
WW	4	4	6	3
MCE	3	3	3	1
SF	6	10	6	1
Mrb	4	4	4	2
U Mrb	10	8	10	6

Progeny Equivalents

Trait	Avg	Simbrah 1	Simbrah 2
CE	3	5	2
WW	3	4	2
MCE	1	3	0
SF	1	4	0
Mrb	2	4	1
U Mrb	6	8	4

Progeny Equivalents

Trait	Avg	Simmental 1	Simmental 2
CE	4	7	2
WW	4	7	2
MCE	3	5	1
SF	10	14	3
Mrb	4	6	2
U Mrb	8	11	5

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American Simmental Association

We do the science.

You make the profit.

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