

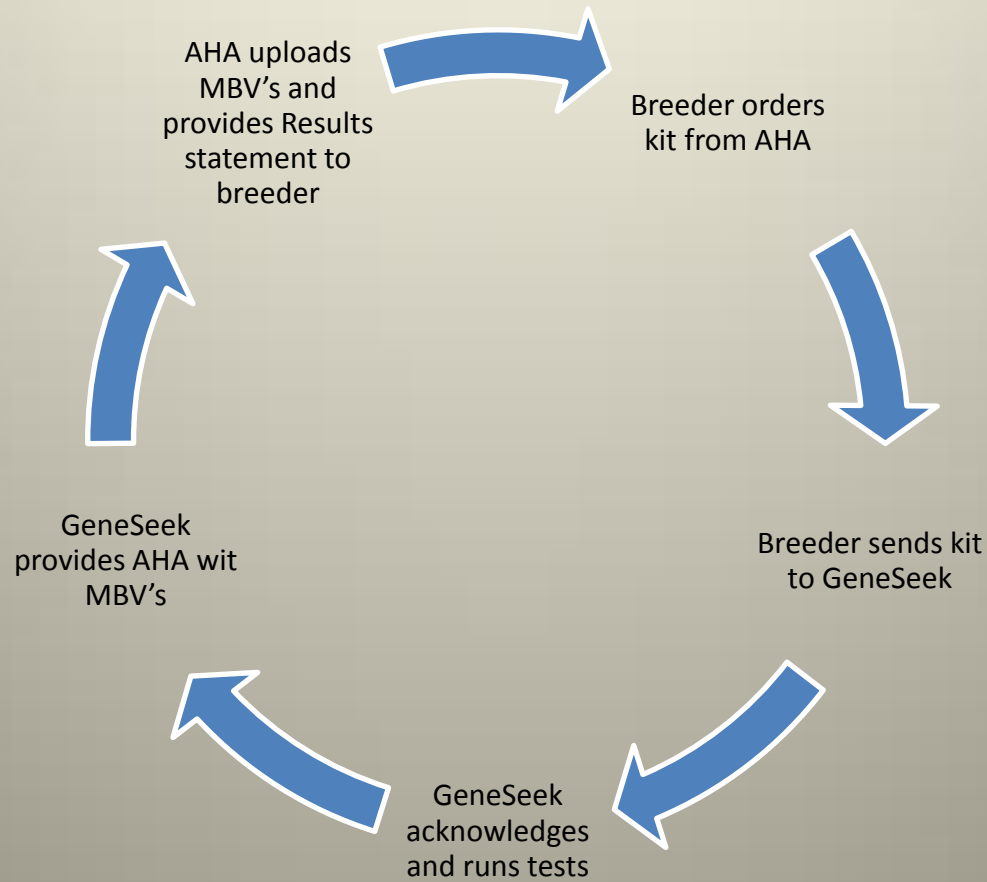
BIF Genetic Workshop

December 12, 2013

Jack Ward

American Hereford Association

AHA Process



Inclusion of Genetic Prediction in to National Cattle Evaluation, Hereford

- First inclusion was done on Fall 2012 NCE and the correlations were based off of about 1100 high accuracy bulls.
- Spring 2013 NCE was run with the same correlations.
- April 2013, updated the correlations based off of nearly 3000 animals and nearly doubled the correlations to an average of about .52 which accounts for about 27% of the genetic variation.
- Post Evaluation blending method is used today.

New vs Old

(added over 2000 new bulls to training)

AHA trait	Old Correlation MBV &EPD	New correlation MBV & EPD
CE	.33	.68
BW	.40	.68
WW	.34	.52
YW	.33	.60
MM	.21	.37
MCE	.18	.51
MCW		.64
SC	.25	.43
FAT	.43	.48
REA	.25	.49
MARB	.41	.43
AVG	.31	.53

Inclusion of Genetic Prediction in to National Cattle Evaluation, Hereford

- Fall 2013, incorporated the Genomic component into evaluation so it will affect animals up and down the pedigree.
- May 1, 2013 the AHA switched from the 50K chip to the HD 77K chip offered by GeneSeek which includes, parentage, genetic abnormalities and GE-EPD.

What does Breeder receive?

American Hereford Association
 P.O. BOX 014059
 KANSAS CITY MO 64101-4100
 816-842-3757 FAX: 816-842-6931

Loewen Herefords 951 804
 John Loewen
 9815 South 66th
 Waukomis OK 73773-0120

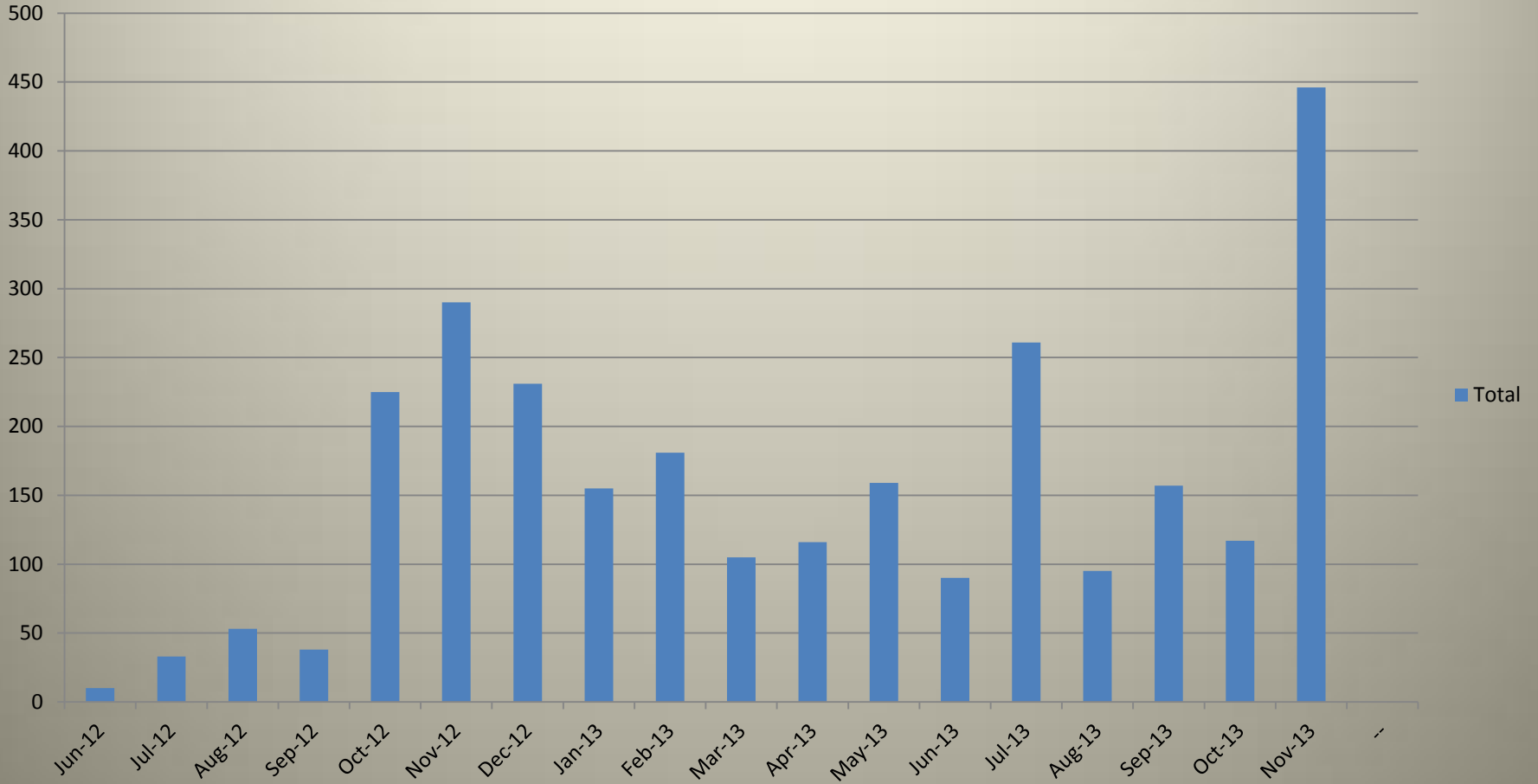
DNA RESULT STATEMENT

Page: 1

Registration No:	43335297	Name:	LOEWEN 34X 1042 33Z
Herd Id:	33Z	Birth Date:	06/28/12
Tattoo:	33Z	Sex:	Bull

Results for Case No. AHA43335297-01	Date Sent: 05/08/13	Date Tested																																																																																																		
Parentage Request Type: Parent Verification	Panel Type: SNP Panel	06/03/13																																																																																																		
<u>Name</u>	<u>Registration Number</u>	<u>Result</u>																																																																																																		
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Dam: ALH 0850 XENA 1042	43102499	Qualifies																																																																																																		
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Tested	<table border="1"> <thead> <tr> <th>CE EPD</th> <th>BW EPD</th> <th>WW EPD</th> <th>YW EPD</th> <th>MIK EPD</th> <th>M&G EPD</th> <th>MCE EPD</th> <th>MCW EPD</th> <th>Scrotal EPD</th> <th>FAT EPD</th> <th>REA EPD</th> <th>MARB EPD</th> <th>BMI \$</th> <th>CEZ \$</th> <th>BII \$</th> <th>CHB \$</th> </tr> <tr> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th>Acc</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>4.7</td> <td>-1.5</td> <td>45</td> <td>76</td> <td>4</td> <td>27</td> <td>1.7</td> <td>87</td> <td>1.2</td> <td>0.013</td> <td>0.36</td> <td>0.29</td> <td>29</td> <td>21</td> <td>27</td> <td>27</td> </tr> <tr> <td>.15</td> <td>.35</td> <td>.26</td> <td>.28</td> <td>.12</td> <td></td> <td>.12</td> <td>.11</td> <td>.15</td> <td>.18</td> <td>.20</td> <td>.17</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EPDs Pre-GE Data:</td> <td>4.5</td> <td>-0.5</td> <td>47</td> <td>76</td> <td>17</td> <td>40</td> <td>2.3</td> <td>90</td> <td>1.0</td> <td>0.001</td> <td>0.41</td> <td>0.30</td> <td>24</td> <td>20</td> <td>22</td> <td>29</td> </tr> <tr> <td></td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	CE EPD	BW EPD	WW EPD	YW EPD	MIK EPD	M&G EPD	MCE EPD	MCW EPD	Scrotal EPD	FAT EPD	REA EPD	MARB EPD	BMI \$	CEZ \$	BII \$	CHB \$	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc					4.7	-1.5	45	76	4	27	1.7	87	1.2	0.013	0.36	0.29	29	21	27	27	.15	.35	.26	.28	.12		.12	.11	.15	.18	.20	.17					EPDs Pre-GE Data:	4.5	-0.5	47	76	17	40	2.3	90	1.0	0.001	0.41	0.30	24	20	22	29		P	P	P	P	P	P	P	P	P	P	P						
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GE-EPD Requests by Month



Where to find Hereford animals that have GE-EPD

- Animals are recognized on the web with



- The EPD Inquiry can be used by a quest and animals can be “sort if”



Future Development

- Continue to look at ways for better inclusion.
- Work with other Pan American countries to develop tests that work across continents.
- Sequencing and identifying possible causative genes or at least genes with large effects.
- Continue to collect phenotypes through Whole Herd TPR
- Make sure that we not only rank the bulls correctly, but make sure that 1 lb change in EPD results in 1 lb change in average progeny performance.

Recognition

- NBCEC (Dorian Garrick, Mahdi Saatchi)
- USMARC (John Pollak, Mark Thallman, Larry Kuehn)
- Jerry Taylor
- Dan Moser
- Matt Spangler
- Mike MacNeil
- AGBU, ABRI
- GeneSeek
- AHA staff and BOD