BIO
294 Mill St E Unit 209
Elora, ON N0B 1S0

p: 855.246.2333
f: 519.767.2502
www.bridgingintelligence.com

Bull Evaluation Centre Report

201606 Crystal Farms **(End of Test)** Test Date: **20 Mar 2016** Days on Test: **112**

Centre Manager: **PAUL FERGUSON**
Phone #: **613-275-2422**
EMail: **ferguson.maryellen@gmail.com**
Address: **21 CRYSTAL RD.,R.R. #3 , JASPER , ON , K0G 1G0**
Ration Statement:

Start of Test Date: **29 Nov 2015**
End of Test Date: **20 Mar 2016**
Pick Up Date:

Note:
1. Check the information on your BULL(s) to ensure the pedigree, birth date, tattoo, and weaning data is complete and accurate.
2. For best results clients need to submit complete herd data with complete weaning weights on all their calves to bioTrack, our Herd Evaluation Service. Calves with incomplete herd data will not receive genetic evaluations nor BIO Economic Indexes. If no data is submitted to BIO, then the calves in the bull evaluation centre will be regarded as UNOFFICIAL. Unofficial calves will not receive genetic evaluations, BIO Economic Indexes nor certificates and may not eligible for awards that are offered from time to time.
3. If you have questions on data submission, please contact our office.

A Guide to BIO's Bull and Heifer Evaluation Reports and BIO's Genetic Evaluations

Report Features

- Objectively Compare all animals using our across breed comparisons -ABCs - Allows you to compare all the bulls in the group for their genetics, regardless of their breed. Bulls are listed on the report by the tag number.
- Quickly know where an animal ranks for a trait using the percentile ranking. Our percentile rankings range from 1 (lowest) to 99 (highest) tells you how an animal ranks for the trait you're looking at. All animals are ranked for each trait! The rankings compare all animals evaluated over the past 3 years for that trait.
  Across breed Percentiles (%AB) allow you to compare purebred, crossbred, and composite animals across breeds.
  Within breed Percentiles (%WB) allow you to compare purebred animals within its breed.
  Example: A bull or heifer that has a percentile of 99 (99th percentile) is in the top 1% of all animals evaluated for that trait or index; a bull in the 80th percentile is in the top 20%, etc.
- Most current genetic evaluations - The Herd Recording traits (CE, BW, WG, MILK) are updated on the 84-day and End-of-test reports, to reflect the added information of weights taken on test. The End-of-test evaluations use the animal's on-test performance and all related performance data in the database to calculate the ABC and are therefore the most current evaluations in the industry.

Features of BIO's Genetic Evaluations (ABCs) and Economic Indexes

- Genetic Evaluations - the most accurate method to express genetic ability of an animal. They are adjusted for environment and can be used to compare animals across herds and evaluation centres.
- ABC - Across Breed EPD or Comparison - Estimate of how future progeny of an animal are expected to perform in each of the traits. Comparisons can be made within breeds and across breeds. For example, a bull or heifer with a Yearling Gain ABC of +85 will produce progeny that are on average 50 pounds heavier than progeny from a bull with a Yearling Gain ABC of +35.
- Accuracy - Measure of the amount of information used to calculate the ABC. Ranges from 1 (least) to 99 (most). Evaluations based on pedigree information only are noted as 'PE' (pedigree estimate).
- BIO$: This is an index that considers several traits in determining better bulls when mated to average cows and is aiming at efficient lean meat production for a market focused on AA carcasses between 775 and 900 pounds. Use the BIO$ index to identify top prospect bulls and then look at specific ABC's within that group for traits that you value in your operation.
- ABCs (Across Breed EPDs) for all animals evaluated by BIO are on a fixed base. The base is a multi-breed average of animals born 1995-1998:

Trait	CE	BW	WG	MILK	PWG	YG	FAT	REA	%IMF	SC	BIO$
Base	0	0	+30	+15	+20	+50	0	0	0	0	+2000

Report Definitions and Legend

Herd Measurements (BIO believes in Whole Herd Recording)

CE - ***Calving Ease*** - The ease or difficulty with which the animal was born. The categories are unassisted (U), easy pull (E), hard pull (H), surgical (S) or malpresentation (M).
BW - ***Birth weight (lbs)*** of the animal.
AWW - ***Adjusted Weaning Weight (lbs)*** - The on-farm weaning weight of the animal adjusted to 200 days of age. Adjustments are made for age of dam and sex of calf.
WI - ***Weaning Index*** **-** Within-herd index based on adjusted weaning weight. Use to compare calves in the same pre-weaning management group. A minimum of five calves in a management group is required to receive an index. ET indicates an embryo transplant calf.

Test Evaluation Measurements (based on the animal's performance in the evaluation centre)

SOT - ***Start of Test Weight (lbs)***
EOT - ***End of Test Weight (lbs)***
ADG - ***Average Daily Gain (lbs/day)*** - The regressed average daily gain during the animal evaluation period. All monthly weighings are used in determining the adg.
WPDA - ***Weight Per Day of Age (lbs/day)*** - Weight taken at weigh period divided by days of age and includes birth weight.
HH - ***Hip Height (inches)*** **-** Height of the animal over the hip bones at EOT.
FRAME - ***Frame Score*** - A 1 to 10 scale calculated using hip height and age, according to Beef Improvement Federation guidelines.
FAT - ***Backfat (mm)*** - Measured ultrasonically between the 12th and 13th ribs (grading site) at the end of the test.
REA & AdjREA - ***Rib Eye Area (square inches)*** - Measured ultrasonically between the 12th and 13th ribs (grading site) at the end of the test. The AdjREA is adjusted to 365 days of age.
%IMF & Adj%IMF - ***Percent Intramuscular Fat (Marbling)*** **-** Measured ultrasonically between the 12th and 13th ribs (grading site) at the end of test. NR indicates the animal had too little %IMF to measure. Adj %IMF is adjusted to 365 days**.**
GRADE - ***%IMF expressed as marbling grade (A, AA or AAA)*** **-** PD indicates practically devoid, which is less than 1.86 %IMF. Animals near the border of a category are shown as a combination of the two categories (i.e. A-AA).
SC & AdjSC - ***Scrotal Circumference (cm)*** **-** End of test measure of scrotal circumference. Indication of the semen producing ability of the bull. 'ABN' indicates abnormal testicles (size, shape, injury) and no measurement is taken. AdjSC is adjusted Scrotal circumference and is adjusted to one year of age.

Genetic Evaluations - Across Breed EPDS (ABCs)

CE - ***Calving Ease ABC*** - is a genetic prediction of the increase (+) or decrease (-) in percent **unassisted** calvings if the bull is mated with heifers that are an average size and have average calving ability.
BW - ***Birth Weight ABC (lbs)*** - The effect the animal will have on the birth weight of their calves.
WG - ***Weaning Gain ABC (lbs)*** - The ability of the animal's calves to grow from birth to weaning.
MILK - ***Milk/ Mothering ability ABC (lbs of calf at weaning)*** - The ability of a animal's daughters to provide their calves with milk and mothering ability.
PWG - ***Post-Weaning Gain ABC (lbs)*** - Indicates the ability of an animal's calves to grow from weaning to yearling.
YG - ***Yearling Gain ABC (lbs)*** **-** Indicates the ability of a animal's calves to grow from birth to yearling.
FAT - ***Backfat thickness ABC (mm)*** - The ability of a animal's progeny to deposit backfat (finishing ability), adjusted to a common age.
REA - ***Rib Eye Area ABC (square inches)*** - Predictor of the differences in progeny ribeye area (muscling), adjusted to a common age.
%IMF - ***Intramuscular Fat ABC (Marbling)*** - The ability of a animal's progeny to deposit marbling fat, adjusted to a common age.
SC - ***Scrotal Circumference ABC (cm)*** - Indicates the ability of a bull to transmit scrotal size to male progeny. It is a partial indicator of daughter's age at puberty.

Bull Evaluation EOT Report

201606 Crystal Farms

Genetic Evaluations (23 Mar 2016)

Tag 0004 | Pen | Tattoo PFER 4C

Contact **PAUL FERGUSON - CRYSTAL FARMS**
HC/Breed **BLONDE D-AQUITAINE** **613-275-2422**
Birthdate **17Jan2015** Colour
SireSire **ARSHA LAVA 103L**
Sire **ARSHAS POLLED TROOPER**
Dam **KNOX NANCY 12N**
DamSire **MARMAC'S CAGNEY**

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$
%ab	6	8	90	79	9	44	1	94	1	3	
ABC Acc	**-5** 33	**3.4** 57	**52** 46	**27** 22	**15** 47	**67** 47	**-1.09** PE	**.81** PE	**-.38** PE	**-1.28** PE	**N/R**
%wb	8	7	96	93	78	93	66	78	13	36	

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	106	788	119	1185	1560	3.36	3.64										

Tag 0006 | Pen | Tattoo PFER 6C

Contact **PAUL FERGUSON - CRYSTAL FARMS**
HC/Breed **BLONDE D-AQUITAINE** **613-275-2422**
Birthdate **19Jan2015** Colour
SireSire **WWP WASHINGTON 2W**
Sire **FROSTYBRAE BLACKIE**
Dam **PFER 2R**
DamSire **SANDY TOWN METHUSELAH 1M**

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$
%ab	7	15	57	3	63	63					
ABC Acc	**-4** 32	**2.2** 59	**41** 47	**9** 26	**35** 47	**76** 47					**N/R**
%wb	11	16	76	10	99	97					

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	95	673	102	1005	1520	4.41	3.57										

Tag 0009 | Pen | Tattoo REB 9C

Contact **DAVE & JANICE MASSEY - REBENMATT FARM**
HC/Breed **SHORTHORN** **613-283-6534**
Birthdate **20Feb2015** Colour
SireSire
Sire **JSF 137W**
Dam **LILACVIEW ANNABELL POLLY 15A**
DamSire **ANN 7X**

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$
%ab					9						
ABC Acc					**15** 37						**N/R**
%wb					12						

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	73	584		830	1215	3.29	3.08										

Tag 0013 | Pen | Tattoo PFER 13C

Contact **PAUL FERGUSON - CRYSTAL FARMS**
HC/Breed **BLONDE D-AQUITAINE** **613-275-2422**
Birthdate **28Jan2015** Colour
SireSire **ARSHAS POLLED TROOPER**
Sire **PFER 18A**
Dam **PFER 5A**
DamSire **CRYSTAL WALDO 23W**

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$
%ab	46	46	29	74	1	1	1	85	1	2	
ABC Acc	**1** 29	**-.7** 56	**34** 46	**26** 16	**-27** 46	**7** 46	**-1.17** PE	**.59** PE	**-.37** PE	**-1.37** PE	**N/R**
%wb	76	66	47	90	1	1	45	49	17	32	

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	85	680	103	935	1120	1.56	2.69										

Tag 0014 | Pen | Tattoo PFER 14C

Contact **PAUL FERGUSON - CRYSTAL FARMS**
HC/Breed **BLONDE D-AQUITAINE** **613-275-2422**
Birthdate **29Jan2015** Colour
SireSire **CIA JAGUAR 1F**
Sire **HEARTWOODS EYECATCHER 10E**
Dam **LAVELAINE MISS LACY 21L**
DamSire **LAVELAINES MISTER FARLEY 45F**

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$
%ab	3	3	19	72	4	7	1	97	1	8	
ABC Acc	**-6** 38	**5.2** 61	**31** 49	**26** 38	**10** 50	**40** 50	**-1.11** PE	**.93** PE	**-.42** PE	**-.79** PE	**N/R**
%wb	3	2	33	90	50	41	60	86	2	70	

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	105	659	100	1050	1410	3.22	3.39										

Bull Evaluation EOT Report

201606 Crystal Farms

Genetic Evaluations (23 Mar 2016)

Tag **0025**	Pen	Tattoo **PFER 25C**
Contact	**PAUL FERGUSON - CRYSTAL FARMS**	
HC/Breed	**BLONDE D-AQUITAINE**	**613-275-2422**
Birthdate	**15Apr2015** Colour	
SireSire	**RHEO LANCASTER 113L**	
Sire	**CRYSTAL WALDO 23W**	
Dam	**CRYSTAL NICKI 11N**	
DamSire	**HANOVER SPECIAL 25D**	

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$	
%ab	67	84	32	88	9	16	1	91	2	5		
ABC Acc	**3** 40	**-3.6** 63	**35** 54	**30** 33	**16** 51	**50** 53	**-1.12** PE	**.70** PE	**-.33** PE	**-1.08** PE	**N/R**	
%wb	90	96	51	97	80	67	59	64	52	51		

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	78	682	95	720	1125	3.72	3.31										

Tag **1006**	Pen	Tattoo **DCM 6C**
Contact	**DAVE & JANICE MASSEY - REBENMATT FARM**	
HC/Breed	**ANGUS**	**613-283-6534**
Birthdate	**17Feb2015** Colour	
SireSire		
Sire	**IMP 0008X**	
Dam	**JJZ 22Z**	
DamSire		

	CE	BW	WG	Milk	PWG	YG	FAT	REA	%IMF	SC	BIO$	
%ab		84	59		97	90						
ABC Acc		**-3.6** PE	**41** PE		**51** 40	**93** PE					**N/R**	
%wb		56	56		92	83						

CE	BW	AWW	WI	SOT	EOT	ADG	WPDA	HH	Frame	Fat	REA	AdjREA	%Imf	Adj%Imf	Grade	SC	AdjSC
U	87	696		965	1465	4.37	3.69										

Bull Evaluation EOT Report

201606 Crystal Farms

Genetic Evaluations (23 Mar 2016)

Breed Summary Averages

Breed	#	% U	BWT	AWW	SOT	28D	56D	84D	EOT	ADG	WPDA	Hip Height	Frame Score	Back Fat	REA	Adj REA	%IMF	Adj %IMF	Scrotal
ANGUS	1	100	87	696	965	1130	1265	1360	1465	4.37	3.69								
BLONDE D-AQUITAINE	5	100	94	696	979	1090	1209	1269	1347	3.25	3.32								
SHORTHORN	1	100	73	584	830	970	1075	1125	1215	3.29	3.08								
Group Averages	7	100	90	680	956	1079	1198	1261	1345	3.42	3.34								