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.

Note: 1. Check the information on your BULL(s) to ensure the pedigree, birth date, tattoo, and weaning data is complete and accurate.

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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).
- BIOS: 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 BIOS index to identify top prospect bulls and then look at specific ABCs 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:

<table>
<thead>
<tr>
<th>Trait</th>
<th>CE</th>
<th>BW</th>
<th>WG</th>
<th>MILK</th>
<th>PWG</th>
<th>YG</th>
<th>FAT</th>
<th>REA</th>
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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.

AWN - 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 an animal’s calves to grow from birth to yearling.

FAT - Backfat thickness ABC (mm) - The ability of an 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 an 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

**201418 Koyle Farms Bull Test**

Genetic Evaluations (27 Feb 2014)

<table>
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## Genetic Evaluations

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## Contact Information

- **Tag 0001**: Dwight P. Koyle - Koyle Farms (519-764-2697)
- **Tag 0004**: Dwight P. Koyle - Koyle Farms (519-764-2697)
- **Tag 0013**: Dwight P. Koyle - Koyle Farms (519-764-2697)
- **Tag 0014**: Dwight P. Koyle - Koyle Farms (519-764-2697)
- **Tag 0016**: Dwight P. Koyle - Koyle Farms (519-764-2697)

## Genetic Evaluations (Continued)

### Tag 0001 (DKP 1A)

- **H/C/Breed**: 94% Limousin
- **Birthdate**: 02/01/2013
- **Sire**: Wulfs Napoleon 1018N
- **Dam**: Koyle Scarlett O'N
- **Dam Sire**: Exlr New Generation 071M

### Tag 0004 (DKP 4A)

- **H/C/Breed**: 94% Limousin
- **Birthdate**: 03/01/2013
- **Sire**: Lvls Secret Weapon 4408K
- **Dam**: Koyle Ultimate
- **Dam Sire**: Exlr New Generation 071M

### Tag 0013 (DKP 13A)

- **H/C/Breed**: Simmental
- **Birthdate**: 01/18/2013
- **Sire**: Mr Hoc Broker
- **Dam**: Jf Latisha 9014W
- **Dam Sire**: 3c Macho M450 BZ

### Tag 0014 (JPC 14A)

- **H/C/Breed**: Angus
- **Birthdate**: 01/19/2013
- **Sire**: Waf Zorzal 321U
- **Dam**: Glen Islay Magic 1U
- **Dam Sire**: SVF PISTOLERO

### Tag 0016 (DPK 16A)

- **H/C/Breed**: 91% Limousin
- **Birthdate**: 01/19/2013
- **Sire**: Kajo Responder 120R
- **Dam**: Ef Tickle My Fancy 570T
- **Dam Sire**: Gpff Blaque Rulon 163K
### Genetic Evaluations (27 Feb 2014)

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**The Symbol of Quality for Beef Production**

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02Mar2014

Page: 5 of 7
### Genetic Evaluations (27 Feb 2014)

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#### Bull Evaluation EOT Report

#### 201418 Koyle Farms Bull Test

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</table>
# Breed Summary Averages

| Breed       | # | %U | BWT | AWW | SOT  | 28D | 56D | 84D | EOT  | ADG  | WPDA | Hip | Frame | Back | REA  | Adj  | Adj  | %IMF | %IMF | Scrotal |
|-------------|---|----|-----|-----|------|-----|-----|-----|------|------|------|-----|-------|------|------|------|------|------|--------|
| ANGUS       | 1 | 90 |     |     | 1002 | 1220|     |     | 1465 | 3.61 | 3.67 | 54.5| 7.3   | 11   | 13.0 | 12.3 | 5.77 | 5.28 | 37.5   |
| LIMOUSIN    | 9 | 83 |     |     | 849  | 1068|     |     | 1292 | 3.44 | 3.35 | 52.3| 6.4   | 6    | 15.8 | 15.2 | 2.69 | 2.55 | 32.6   |
| SIMMENTAL   | 3 | 83 |     |     | 851  | 1058|     |     | 1338 | 3.83 | 3.55 | 52.7| 6.7   | 5    | 14.6 | 14.3 | 3.03 | 2.94 | 38.0   |
| Group Averages | 13 | 84 |     |     | 861  | 1078|     |     | 1316 | 3.55 | 3.42 | 52.5| 6.5   | 6    | 15.3 | 14.8 | 3.01 | 2.85 | 34.2   |