

# Conception to Consumer

CANADIAN CHAROLAIS

2003-2005  
Program



This Conception to Consumer Program summary highlights bulls tested on the Canadian Charolais Conception to Consumer progeny test program. Bulls included in this program come from some of the countries top breeders. The Conception to Consumer program is on of the longest running well respected progeny test programs in the world.

# History of the Conception to Consumer Program

The first edition of the Conception to Consumer (C to C) program was 1968-1970. The program was managed by Charolais breeders for the primary purpose of showing that Charolais cattle worked in the commercial industry. They decided that the best way to do this was to breed Charolais sires to commercial cows and track the performance of the progeny.

In 1968 the first cows were bred and a year later all the calves were on the ground. For two years information was collected on breeding, calving, growth and carcass. The results were exciting. The breeders wondered how they could share the results with the commercial cattlemen. They produced the first sire summary in North America in 1970.

The breeders used the information to promote the Charolais breed, their herds, and their bulls, and to show the commercial breeders that Charolais could work for them.

The breeders were so happy with the information that they continued to breed cows every year. By breeding cows and collecting information every year the breeders could see that they were moving forward. Eventually they wondered, "How can we compare carcass merit from bulls used in different years and from different herds?" This led to the development of the first carcass evaluation in North America and the printing of our carcass EPDs.

Other people watched the program grow and became interested as well. They approached the breeders and asked if they could use the information for research. Michigan State University used the information to research economics of beef production, and Texas A&M University used the information to search for a marbling gene.

The C to C program also led to the use of Charolais in the Canada Alberta Livestock Research Trust (CALRT) herd. In 2000 C to C data was combined with CHARM data and purebred carcass data in a Total Genetic Evaluation (TGE) that produced carcass EPDs for 197,000 Charolais animals. Once again the breeders wanted to share the results with the commercial cattlemen so the 2002 sire summary grew to be the biggest yet and reported the results. 36 years later and the breeders are still breeding cows and collecting information. The results are still exciting. The information is still used to promote the Charolais breed, breeders' herds and bulls and to show the commercial industry that Charolais can work for them. C to C is still providing an invaluable link between the breeders and the rest of the industry.

In the 2003-2005 edition of the C to C program all animals were evaluated for individual feed intake and for 11 single nucleotide polymorphism DNA tests. This is the first individual feed intake data collected on the C to C program and it is the first time the whole test population has been genotyped for the purpose of evaluating new molecular tests.

The breeders are proud of the C to C program and the future still has much to bring. The commercial cattlemen are looking for information and the breeders are working to provide it. They are working together to provide answers in a business that is so full of questions.

## Conception to Consumer 2003-2005

The 2003-2005 Conception to Consumer (C to C) Program is the 29<sup>th</sup> year of C to C. For the first time Calving Ease and Scrotal Circumference EPDs are being presented on these animals. As well, the C to C program continues to be the base for an expanded carcass evaluation that impacts the entire breed and truly positions Charolais as the #1 Terminal Sire.

A tremendous thank you must go, as always, to our co-operating cowherd Ralph and Iris Bennett of Wainwright Alberta own one of the nation's elite commercial cattle operations and this program would not be possible without their cooperation.

The calves were fed at Cattleland Feed Yards in Strathmore AB, and slaughtered at XL Foods, Calgary AB.

## Acknowledgements

Special thanks are extended to all who assisted in making the 2003-2005 C to C program a success...

Bull Owners for their belief in the value of the information

The staff at Independent Breeders Ltd.

Special thanks to Carol High for her assistance in coordinating semen delivery

Our C to C cooperating herd owners for their efforts

The Canadian Charolais Association Breed Improvement Committee

The Canadian Charolais Association Board of Directors

Canadian Charolais Association Staff

Cattleland Feeders, Strathmore AB

Bob Milligan, XL Foods Ltd.

Clay Ross, Allflex Canada

Special thanks to Fred Taylor for his efforts in the grading of our cattle

Without these people the C to C program would not happen.

A special thanks to each of you.

The 2003-2005 program has 3 bulls on test, including the following:

Reg #	Name	Present Owner(s)
PMC214912	HTA SPIRIT PLD 826H (BM)	CEDARLEA FARMS (306)677-2589
MC257527	EXL TRADE SECRET 154L	EXL CHAROLAIS/ BRICKNEY STOCK FARM (403)742-3816
MC278536	LT RIO BLANCO 1234P	LINDSKOV-THEIL, MIKE CALLIS, PATE CHAROLAIS, DAVID MILLER (605)466-2392

# The Information

The 2003-2005 Conception to Consumer program marks the completion of the 29<sup>th</sup> year that Charolais sires have been tested on the program.

In the early years of the association a group of Charolais breeders developed and refined the concept of testing a Charolais bull's genetic merit through performance testing of his progeny. The difficulty in finding purebred animals and the prohibitive costs involved led to the use of commercial stock in the testing program. The other driving force behind the use of commercial cows on the program was the belief that Charolais would only be a success if they were widely accepted within the commercial industry.

Cattle breeders all over the world use the information obtained on the C to C program in their everyday selection decisions, and the program provides a springboard for many other Charolais activities such as various research projects and advertising materials.

Progressive breeders, who pay a fee to participate on the program, nominate test bulls. The numbers change from year to year, however the technical aspects of the program have changed little since the inception of the program in 1968.

Traits that are tested include:

- Ease of calving
- Pre-weaning gain
- Post-weaning gain
- Individual Feed Intake
- Carcass merit

The C to C program evaluates a sire on the basis of the performance of his progeny in comparison to his contemporaries on the test. Careful program design and supervision ensures that all of the data collected is accurate. Essential components of the program include:

- Complete supervision from semen delivery to carcass cut-out
- Use of commercial cowherds reflecting diverse management conditions and a broad genetic base that is reflective of the commercial industry
- Random mating of test sires within co-operating cow herds
- Testing of all healthy progeny with no pre-selection at any phase of the program
- Detailed analysis of each phase of the program
- Publication of all results

C to C cowherds are from diverse environmental and management conditions. The commercial cows used in the program are representative of 90% of the commercial cowherd. The cows and the calves are managed under conditions that are dictated by the current commercial marketplace.

An attempt is made to breed each sire on the test to at least fifty random cows throughout the cowherds. This allows the probability of producing 35-40 calves per sire, providing a good sample for progeny testing. Virgin heifers are not used on the program.

Sires are bred randomly using artificial insemination. As cows come down the chute, cow number 1 is bred to Sire A, cow 2 to Sire B and so on until all the bulls have been used. Then the sire order is repeated. The maximum number of bulls enrolled on the program is usually set at ten. At calving time, the calves are tagged, and birth dates, birth weights and calving ease scores are reported on each calf. From this information, sires are then evaluated for percentage unassisted births, gestation length and birth weight.

At weaning both steers and heifers are weighed, purchased and assembled at the feedlot for post-weaning evaluation. Purchase is based upon a mutually agreeable auction market sale. For pre-weaning evaluation, weights are adjusted to 205 days of age and indexed across sire groups. No age of dam corrections are used as no virgin heifers are used on the program and the cows in the herd's average approximately 5 years of age.

As calves come into the feedlot they are processed (normal medication and induction treatments), sorted by sex and assigned to pens. Following a warm-up period, the calves are officially weighed onto the post-weaning gain test. Rations used are standard feedlot step-up rations, similar to regular fattening programs. At the conclusion of a 112 day test, all calves are individually weighed and their average daily gains and yearling weights and feed intakes are calculated. Results are then indexed into sire groups. At the completion of the test period, calves remain on feed until they reach a visually estimated optimal slaughter endpoint. At this point calves are slaughtered, and all calves are graded using a "Blue Tag" protocol originally developed by Agriculture Canada. Certified graders measure the amount of backfat, marbling and rib-eye area of each chilled carcass.

# 2001-2003 Conception to Consumer Reference Chart

Results are presented by sire as well as overall results of the 2001-2003 program.

## Sire Information

Reg # - the registration number of the sire  
Name - the name of the sire  
Sex - F = heifers, M = steers, Tot = overall, T = twins

## Growth Traits

### **Calving**

No. Born - number of calves born  
No. Astd - number of calves with assisted births  
Birth WT - average birth weight of the sire's calves in pounds  
Gest - average gestation length of the sire's calves in days

### **Birth Wt**

EPD - birth weight Expected Progeny Difference in pounds  
(ACC) - birth weight EPD accuracy

### **Weaning**

# - number of calves with a weaning weight record  
WIDX - average weaning index of the sire's calves (205 day weight)  
205DWT - average adjusted 205 day weight of the sire's calves in pounds

### **Wng Wt**

EPD - weaning weight Expected Progeny Difference in pounds  
(ACC) - weaning weight EPD accuracy

### **Yearling**

# - number of calves with a yearling weight record  
365IDX - average yearling index of a sire's calves (365 day weight)  
365DWT - average adjusted 365 day weight of the sire's calves in pounds  
ADGIDX - average daily gain index on test for the sire's calves  
ADG - average daily gain on test of the sire's calves in pounds per day  
NFI - Average daily dry matter intake of the sire's calves on test adjusted for growth and body composition

### **Ylg Wt**

EPD - yearling weight Expected Progeny Difference in pounds  
(ACC) - yearling weight EPD accuracy

## Carcass Traits

# - number of calves with a carcass record  
AGE - average age of a sire's calves in days at the time of slaughter  
HCW - average hot carcass weight of a sire's calves in pounds  
REA - average rib-eye area of a sire's calves in square inches

### **Backfat**

AVG - average of 3 backfat measurements around the rib-eye in millimetres  
GRD - backfat measured at its leanest point in the fourth quadrant of the rib-eye in millimetres

### **Lean Meat**

YLD - average lean yield of a sire's progeny in % (Ag Canada formula)  
DOA - average lean meat production per day of age in pounds/day of a sire's calves  
 $DOA = (YLD * HCW / AGE)$   
IDX - average index of DOA of a sire's calves

### **Marbling**

AAA / AA / A - number of a sire's calves recorded as having AAA / AA / A marbling levels  
Scr - average marbling score of a sire's calves (a higher number represents a higher degree of marbling)

### **Carc WT**

EPD - carcass weight Expected Progeny Difference in pounds  
(ACC) - carcass weight EPD accuracy

### **REA**

EPD - rib-eye area Expected Progeny Difference in square inches  
(ACC) - rib-eye area EPD accuracy

### **Fat**

EPD - backfat thickness Expected Progeny Difference in millimeters  
(ACC) - backfat thickness EPD accuracy

### **Lean Yld**

EPD - lean yield Expected Progeny Difference in %  
(ACC) - lean yield EPD accuracy

### **Marb**

EPD - marbling Expected Progeny Difference (a larger number represents a higher degree of marbling at a constant age)  
(ACC) - marbling EPD accuracy

## Individual Animal Feed Intake Records

For the first time in the 2003-2005 edition of the C to C program individual daily intake values were recorded. Having the opportunity to feed our C to C feeders at Cattleland Feedyard where they have just added RFI testing as one of their services the breeders jumped at the chance to collect more interesting information on each animal. Each animal was tagged using the CCIA standard radio frequency ID tag and this allowed automatic recording of each feeding event. This data is very valuable to the Breeders since it contains not only the amount of feed each animal eats but the rate, time of day, who else was eating at the same time and many other interesting pieces of information to help explain feeding behaviour. Included in this document is the first ever NFI or Net Feed Intake report. Net Feed Intake is a calculated phenotype representing the difference between the amount of feed an animal eats and what is required for maintenance and growth. Animals that eat less than expected are more efficient so in this trait smaller (negative) numbers are better. This report groups feeder progeny by sire to give us an indication of how each sires progeny performed in relation to the other sires and overall. The units are in lbs of feed consumed in comparison to the other sires progeny. Further evaluation of the feed intake data is underway so take a look at the chart included and be sure to visit the Charolais Association website for more info.

## Genotypic Data

For the first time in the 2003-2005 edition of the C to C program individual animals were genotyped. Eleven different tests were performed on each animal in the program. This data will help the breeders determine how useful each of these tests is in predicting an animals merit for the economically important traits that the C to C program measures. Further evaluation of the genotypic data is currently underway so pay attention for more news on this exciting new aspect of the C to C program.

## 2006 Conception to Consumer EPDs

### GENETIC EVALUATION OF GROWTH TRAITS

The EPDs for growth traits are the result of a North American EPD evaluation run in conjunction with the American International Charolais Association. EPDs reported for growth traits include: Birth Weight (Birth WT), Weaning Weight (Wng WT), Yearling Weight (Ylg WT), Milk and Total Maternal (Tot Mat). A more detailed explanation of these traits and how to use them in selection decisions can be found in the 2006 Sire Summary.

### GENETIC EVALUATION OF CARCASS TRAITS

A multiple-trait animal model was used to determine EPDs for carcass weight, rib-eye area, backfat thickness, marbling score and lean yield. A total of 253 sires (with progeny carcass data) were evaluated from carcass data on 6730 steer and heifer crossbred progeny. For each trait, records were adjusted to a constant slaughter age endpoint within year (C to C section). The effects of contemporary group and breed of dam composition were also taken into account in the evaluation. Genetic parameters are given in the following table:

Trait	Carc WT	REA	Fat	Lean Yld	Marb
Carcass weight	<b>.30</b>	.40	-.05	.07	.12
Ribeye area		<b>.38</b>	-.43	.79	-.23
Fat thickness			<b>.30</b>	-.86	.35
Lean yield				<b>.38</b>	-.40
Marbling score					<b>.29</b>

Heritabilities are on the **diagonal** and genetic correlations on the upper diagonal. These genetic parameters were estimated using the C to C data.

**Birth WT** - the expected difference in average birth weight (pounds) of progeny. Birth Weight reflects prenatal growth. Positive values indicate heavier birth weights.

**Wng WT** – the expected difference in average weaning weight of calves (pounds). The evaluation reflects the genetic influence on pre-weaning growth rate.

**Ylg WT** – the expected difference in average yearling weight of progeny (pounds). The evaluation reflects genetic influence on both pre-weaning and post-weaning growth rate.

**Milk** – the genetic ability of a sire’s daughters to express in pounds of weaning weight in her calves due to her maternal ability through mothering instinct and milk.

**Tot Mat** – a value to predict the weaning weight performance of calves from a sire’s daughters due to genetics for growth and maternal ability. Total Maternal is calculated by adding ½ the Wng WT EPD to the Milk EPD.

**Carc WT** – The expected difference in average carcass weight of progeny in pounds. A larger number means that carcasses will weigh more at a constant age.

**REA** – The expected difference in rib-eye area of progeny in square inches. A larger number means that the rib-eye muscle will have a larger area at a constant age.

**Fat** - The expected difference in backfat thickness of progeny in millimetres. A larger number means that carcasses will have more backfat at a constant age.

**Lean Yld** – The expected difference in average lean yield of progeny in percent. Lean yield is the percent of lean meat produced in relation to the total carcass weight. A larger number means that a higher percentage of the carcass weight will be lean meat at a constant age.

**Marb** – The expected difference in average marbling score of progeny. A larger number means that progeny of the animal will have a higher average marbling score and thus express a higher degree of marbling at a constant age.

Quality Grade	Description	Marbling Score
B	Devoid	0-10
A	Traces	10-19
AA	Slight	20-29
AAA	Small	30-39
Canada Prime (AAAA)	Slightly Abundant	40+

**ACC** – Accuracy is used to show the reliability of an EPD. As accuracy approaches 1.00, it means that more performance information (progeny, grand-progeny, sibs and other relatives) was used in the evaluation of a sire. As the accuracy increases the EPD is a better predictor of the animal’s true genetic merit.

### **TERMINAL SIRE VALUE (TSV)**

The Terminal Sire Value (TSV) was developed in a joint research project between the Lethbridge Research Centre (Agriculture and Agri-Food Canada) and the Canadian Charolais Association. It is a tool that commercial producers can use to compare and select sires for production of market calves. As well, purebred breeders could use it to rank sires for their breeding programs.

The TSV ranks sires based on a single value determined by optimally combining five traits which are economically important from birth to slaughter. These traits are: birth weight (BW), weaning gain (WG)<sup>1</sup>, post-weaning gain (PWG)<sup>2</sup>, lean yield (LY) and marbling score (MARB). The TSV is obtained by combining EPDs of these traits by their respective relative economic values. Relative to BW (economic value of 1), weaning gain, post-weaning gain, marbling score and lean yield economic values are 1.5, 1.5, 2 and 3, respectively. These relative economic values were based on a review of mainly Canadian and American studies. By using the TSV, it is expected that all five traits will be improved (higher WG, PWG, MARB and LY but lower BW). On average, 7% of the economic gain will be from BW, 23% from growth traits (WG and PWG) and the other 70% from carcass traits (MARB and LY). It is important to note that sires with different EPDs for any given trait used in the TSV can have the same TSV value. This occurs because low EPD in one trait can be offset by a higher EPD in another trait and vice versa.

An important aspect of the Terminal Sire Value is that it is not sensitive to changes in genetic parameters or market conditions. The TSV was tested for sensitivity to variation in genetic parameters and relative economic values by varying them by 50% for each trait. In all cases, sires ranked very similarly. This means that the Terminal Sire Value can be used in a variety of situations and positive progress will still be achieved, even if the actual genetic parameters or relative economic values are different from those used to derive the TSV.

The TSV is expressed such that the average value of all 251 C to C tested sires is 100 with a standard deviation of 25. A larger value indicates a more valuable terminal sire. The top 16% of sires will have a TSV of 125 and better

while the top 2.5% sires will have a TSV of 150 and better. One possible way to select terminal sires would be to decide the minimum TSV which is acceptable (e.g. higher than 125 to obtain a sire in the top 16% of the breed), and then choose individual sires that are above the minimum TSV on the basis of semen availability, price, pedigree, physical characteristics, etc.

<sup>1</sup> Weaning gain (WG) is calculated as the difference between weaning weight (WW) and birth weight (BW) i.e.  $WG = WW - BW$ .

<sup>2</sup> Postweaning gain (PWG) is calculated as the difference between yearling weight (YW) and weaning weight (WW) i.e.  $PWG = YW - WW$ .

**Example:**

Trait	Carc Wt	REA	Fat	Lean Yld	Marb	TSV
Bull A EPDs	5.0	0.30	0.02	0.65	0.12	108.6
Bull B EPDs	2.0	-0.05	0.04	0.32	-0.05	92.3
Difference	3.0	0.35	0.02	0.33	0.17	16.3

At a constant slaughter age, Bull A's progeny, on average, would be expected to have carcasses that weighed 3 pounds more, had 0.35 sq. in. larger rib-eyes, had 0.02 mm less backfat and yielded 0.33% more lean meat than progeny of Sire B. In addition, Bull A's progeny would have a lower marbling score and therefore express a higher degree of marbling than calves from Bull B. In this example the Terminal Sire Value (TSV) indicates that Bull A would have greater value as a producer of market calves than Bull B.

## Sample of Conception to Consumer Data Collected

<b>Calf # 276M</b>			
Herd	1	Daily Feed Intake	35 pounds
Dam	872F	365 Day Weight	1276 pounds
Breed of Dam	ARARAR	Slaughter Date	04/21/2002
Sire	1	Age at Slaughter	407 days
Date Bred	05/26/2000	Live Weight	1238 pounds
Born	03/10/2001	Hot Carcass Weight	724 pounds
Calving Ease	Unassisted	Backfat 1	9 mm
Sex	Female	Backfat 2	8 mm
Birth Weight	95 pounds	Backfat 3	7 mm
Gestation	284 days	Average Fat	8.0 mm
Weaned	10/30/2001	Grade Fat	7 mm
Weaning Weight	655 pounds	Quality Grade	AAA
205 Day Weight	585 pounds	Marbling Score	35
On Test Date	11/27/2001	Cutability	61.44%
Off Test Date	03/06/2002	Rib-Eye Area	13.80 in <sup>2</sup>
Average Daily Gain	4.32 pounds per day	Genotype	Allele

### Conception to Consumer 2003-2005 Edition Birth and Weaning Summary

Sire Name Sire Reg No	Sex	Count	Calving Ease					Gestation Length			Birth Weight			Weaning (205d)				
			U	E	H	M	S	Average	Max	Min	Average	Max	Min	Count	Average	Max	Min	Index
<b>HTA Spirit PLD 826H</b> <b>PMC214912</b>	F	9	9	0	0	0	0	283.7	291	277	101.9	130	90	9	548.8	613.5	449.4	99.2
	M	4	3	0	0	1	0	286.3	291	282	100.0	108	95	4	550.7	566.7	532.1	96.6
	<b>Total</b>	<b>13</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>284.5</b>	<b>291</b>	<b>277</b>	<b>101.3</b>	<b>130</b>	<b>90</b>	<b>13</b>	<b>549.4</b>	<b>613.5</b>	<b>449.4</b>	<b>98.4</b>
	Twins	4	3	0	0	1	0	281.6	283	280	88.3	95	78	3	512.5	519.3	505.9	NA
<b>EXL Trade Secret 154L</b> <b>MC257527</b>	F	11	9	2	0	0	0	286.2	298	272	107.2	120	90	10	552.5	669.0	503.5	100.1
	M	15	12	2	0	1	0	287.5	294	281	114.1	136	90	14	559.8	636.1	497.4	98.3
	<b>Total</b>	<b>26</b>	<b>21</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>287.0</b>	<b>298</b>	<b>272</b>	<b>111.2</b>	<b>136</b>	<b>90</b>	<b>24</b>	<b>556.8</b>	<b>669.0</b>	<b>497.4</b>	<b>99.0</b>
	Twins	6	5	0	0	1	0	280.4	282	279	84.0	96	70	6	555.4	633.7	514.1	NA
<b>LT Rio Blanco 1234P</b> <b>PMC278536</b>	F	12	11	1	0	0	0	284.0	303	278	100.2	114	62	12	554.0	659.7	428.6	100.7
	M	13	11	1	0	0	1	283.5	294	276	107.1	135	84	12	593.9	683.8	532.5	105.1
	<b>Total</b>	<b>25</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>283.7</b>	<b>303</b>	<b>276</b>	<b>103.8</b>	<b>135</b>	<b>62</b>	<b>24</b>	<b>574.0</b>	<b>683.8</b>	<b>428.6</b>	<b>102.9</b>
	Twins	2	2	0	0	0	0	280.0	280	280	88.0	90	86	2	517.5	565.9	469.2	NA
<b>Totals</b>	F	32	29	3	0	0	0	284.6	303	272	103.1	130	62	31	551.7	669.0	428.6	100.0
	M	32	26	3	0	2	1	285.7	294	276	107.0	136	84	30	568.2	683.8	497.4	100.0
	<b>Total</b>	<b>64</b>	<b>55</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>285.2</b>	<b>303</b>	<b>272</b>	<b>105.1</b>	<b>136</b>	<b>62</b>	<b>61</b>	<b>560.0</b>	<b>683.8</b>	<b>428.6</b>	<b>100.0</b>
	Twins	12	10	0	0	2	0	280.7	283	279	86.8	96	70	11	528.5	633.7	469.2	NA

### Conception to Consumer 2003-2005 Program Feedlot and Carcass Summary

Sire Information Registration # Name	Feedlot Growth						Carcass Quality											
	Sex	#	ADG	IDX	YWT	IDX	#	AGE	HCW	REA	Backfat		Lean Meat		Marbling			
											AVG	GRD	YLD	DOA	AAA	AA	A	SCR
<b>MC214912</b> HTA SPIRIT PLD 826H	F	9	4.01	107.0	1191	103.2	8	455	710.0	13.6	11.1	8.5	59.21	0.94	7	1	0	33.3
	M	4	3.28	91.9	1068	93.8	4	458	742.5	13.0	11.1	9.0	57.04	0.94	3	1	0	33.3
	<b>Total</b>	<b>13</b>	<b>3.78</b>	<b>102.3</b>	<b>1153</b>	<b>100.3</b>	<b>12</b>	<b>456</b>	<b>720.8</b>	<b>13.4</b>	<b>11.1</b>	<b>8.7</b>	<b>58.49</b>	<b>0.94</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>33.3</b>
	T	4	4.23	NA	1186	NA	3	465	719.7	15.2	11.5	8.7	60.88	0.94	2	1	0	32.7
<b>MC257527</b> EXL Trade Secret 154L	F	10	3.46	92.2	1105	96.0	10	454	715.2	13.1	12.7	10.6	57.28	0.90	7	3	0	30.4
	M	14	3.47	97.9	1115	97.6	14	453	761.2	13.6	13.4	11.8	56.95	0.96	8	6	0	29.9
	<b>Total</b>	<b>24</b>	<b>3.46</b>	<b>95.5</b>	<b>1111</b>	<b>96.9</b>	<b>24</b>	<b>453</b>	<b>742.0</b>	<b>13.4</b>	<b>13.1</b>	<b>11.3</b>	<b>57.09</b>	<b>0.93</b>	<b>15</b>	<b>9</b>	<b>0</b>	<b>30.1</b>
	T	6	3.25	NA	1076	NA	6	460	718.0	13.5	14.1	13.7	56.85	0.89	4	2	0	31.2
<b>MC278536</b> LT Rio Blanco 1234P	F	12	3.75	101.3	1156	100.9	12	459	741.4	13.5	16.0	14.9	54.31	0.88	10	2	0	33.3
	M	12	3.74	105.1	1193	104.9	12	461	803.6	13.6	16.5	14.7	54.23	0.94	12	0	0	33.7
	<b>Total</b>	<b>24</b>	<b>3.75</b>	<b>103.2</b>	<b>1174</b>	<b>102.9</b>	<b>24</b>	<b>460</b>	<b>772.5</b>	<b>13.6</b>	<b>16.3</b>	<b>14.8</b>	<b>54.27</b>	<b>0.91</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>33.5</b>
	T	2	3.97	NA	1153	NA	2	461	753.0	14.0	13.3	13.0	57.54	0.94	2	0	0	33.5
<b>Overall</b>	F	31	3.73	100.0	1150	100.0	30	456	724.3	13.4	13.6	11.8	56.61	0.90	24	6	0	32.3
	M	30	3.55	100.0	1140	100.0	30	457	775.7	13.5	14.3	12.6	55.87	0.95	23	7	0	31.9
	<b>Total</b>	<b>61</b>	<b>3.64</b>	<b>100.0</b>	<b>1145</b>	<b>100.0</b>	<b>60</b>	<b>456</b>	<b>750.0</b>	<b>13.5</b>	<b>14.0</b>	<b>12.2</b>	<b>56.24</b>	<b>0.93</b>	<b>47</b>	<b>13</b>	<b>0</b>	<b>32.1</b>
	T	12	3.70	NA	1125	NA	11	461	724.8	14.1	13.3	12.2	58.07	0.91	8	3	0	32.0

Conception to Consumer 2003-2005 Net Feed Efficiency Summary

Sire Information		Net Feed Intake			
Registration #			Lbs per day as fed		
Name	Sex	Count	Average	Maximum	Minimum
<b>MC214912</b>	F	9	0.45	5.16	-2.56
<b>HTA SPIRIT PLD 826H</b>	M	4	0.01	0.07	-0.55
	T	4	0.25	0.37	0.13
	<b>Total</b>	<b>13</b>	<b>0.32</b>	<b>5.16</b>	<b>-2.56</b>
<b>MC257527</b>	F	10	-0.67	1.96	-2.69
<b>EXL Trade Secret 154L</b>	M	13	-0.10	3.44	-8.27
	T	6	-1.87	0.77	-7.28
	<b>Total</b>	<b>23</b>	<b>-0.35</b>	<b>3.44</b>	<b>-8.27</b>
<b>MC278536</b>	F	12	0.26	2.12	-1.43
<b>LT Rio Blanco 1234P</b>	M	12	0.82	3.81	-8.60
	T	2	0.91	4.23	-2.40
	<b>Total</b>	<b>24</b>	<b>0.54</b>	<b>3.81</b>	<b>-8.60</b>
<b>Overall</b>	F	31	0.00	5.16	-2.69
	M	29	0.24	3.81	-8.60
	T	12	-0.24	4.23	-7.28
	<b>Total</b>	<b>60</b>	<b>0.00</b>	<b>5.16</b>	<b>-8.60</b>

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg # NAME	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC %	WT EPD ACC %	WT EPD ACC %	WT EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	EPD ACC %	
FMC802 B B DAKOTA 26C	1973/1975	NA	4.3	5.0	7.0	NA	-0.2	2.0	-5.0	0.30	-0.59	0.95	-0.20	91.5
			0.57 95	0.42 100	0.29 100		0.13 90	0.23 100	0.65 95	0.68 2	0.70 1	0.45 1	0.66 100	
MC4174 BIRCHFIELD APOLLON 5C	1973/1975	NA	1.7	16.0	25.0	NA	-11.9	-4.0	-3.0	0.13	-0.61	0.63	-0.05	98.7
			0.52 60	0.40 70	0.24 80		0.24 100	0.29 100	0.59 95	0.62 30	0.64 1	0.42 1	0.59 95	
MC4158 CHARGAIN ATLAS 15C	1973/1975	NA	-3.7	-9.0	-12.0	NA	-0.7	-5.0	10.0	-0.24	1.41	-1.47	0.24	96.7
			0.50 2	0.40 100	0.33 100		0.17 95	0.25 100	0.71 45	0.74 100	0.76 100	0.49 100	0.72 1	
MC2080 CROWN A30	1973/1975	77	-2.1	-6.0	3.0	NA	17.0	14.0	-5.0	-0.34	0.15	-0.64	0.22	99.7
		0.05 25	0.88 7	0.83 100	0.80 100		0.81 2	0.82 65	0.78 100	0.80 100	0.81 1	0.68 95	0.78 1	
FMC421 EAGLE (ETENDARD)	1973/1975	75	-1.9	5.0	7.0	NA	8.6	11.0	-12.0	-0.55	0.61	-1.00	-0.06	55.6
		0.03 25	0.72 8	0.61 100	0.56 100		0.21 30	0.34 80	0.75 100	0.78 100	0.80 1	0.52 100	0.76 95	
MC4847 FISHERLEA CHAMP	1973/1975	NA	1.6	-1.0	-11.0	NA	6.1	6.0	-7.0	-0.19	-0.81	0.44	-0.16	73.3
			0.59 55	0.43 100	0.32 100		0.25 50	0.31 95	0.67 100	0.70 100	0.72 1	0.48 3	0.67 100	
FMC828 GANDIN	1973/1975	49	-0.8	13.0	31.0	NA	11.6	18.0	44.0	0.56	0.16	0.04	0.18	144.0
		0.01 55	0.53 20	0.47 80	0.46 65		0.42 15	0.44 40	0.72 1	0.75 1	0.76 1	0.61 25	0.72 1	
FMC887 GAVROCHE	1973/1975	NA	1.1	1.0	-13.0	NA	11.3	12.0	6.0	0.40	-0.40	0.63	0.24	138.1
			0.65 50	0.49 100	0.42 100		0.24 15	0.32 75	0.77 65	0.80 1	0.81 1	0.52 1	0.78 1	
FMC1019 GEDEON	1973/1975	NA	2.1	0.0	-12.0	NA	-3.5	-4.0	34.0	0.84	0.00	0.68	0.20	157.9
			0.53 65	0.39 100	0.34 100		0.05 100	0.16 100	0.72 1	0.75 1	0.77 1	0.49 1	0.73 1	
FMC826 GUILLIVER	1973/1975	28	0.9	6.0	12.0	0.2	5.1	8.0	6.0	0.15	0.37	0.02	0.07	113.7
		0.05 75	0.56 45	0.47 95	0.40 95	0.05 45	0.26 60	0.33 90	0.58 65	0.61 30	0.63 1	0.63 25	0.58 7	
MC4755 HSC CHARLEMAGNE 9C	1973/1975	NA	6.8	14.0	20.0	NA	-2.0	5.0	-4.0	0.62	-2.41	2.67	-0.42	96.1
			0.56 100	0.43 80	0.35 90		0.12 95	0.22 95	0.74 95	0.77 1	0.78 1	0.50 1	0.74 100	
FMC852 LAZY JR CADET 18C	1973/1975	96	-2.0	-2.0	3.0	0.0	0.5	0.0	5.0	-0.06	0.31	-0.38	-0.09	92.7
		0.14 5	0.66 7	0.57 100	0.50 100	0.01 70	0.45 90	0.49 100	0.73 70	0.76 90	0.77 1	0.71 75	0.73 100	
MC4790 LAZY JR CADET 5C	1973/1975	NA	-0.7	15.0	47.0	NA	-7.7	0.0	-1.0	-0.12	1.11	-0.84	-0.14	75.5
			0.70 20	0.60 75	0.51 25		0.50 100	0.53 100	0.71 90	0.73 100	0.75 1	0.56 100	0.71 100	

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Mat EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Yld EPD ACC	EPD ACC	
MC5258 LAZY JR CONCORD CADET	1973/1975	NA	-6.4 0.40 1	-10.0 0.33 100	-7.0 0.26 100	NA	-3.5 0.17 100	-9.0 0.22 100	-14.0 0.63 100	-0.29 0.66 100	0.84 0.68 1	-0.79 0.51 100	-0.07 0.64 100	74.0
MC4069 MR BRISCO 21C	1973/1975	NA	1.6 0.56 55	-6.0 0.43 100	-15.0 0.34 100	NA	4.5 0.17 65	2.0 0.26 100	-2.0 0.76 95	-0.06 0.79 90	-0.03 0.80 1	-0.13 0.63 40	0.16 0.77 1	107.3
MC3173 MR. BEAZLEY	1973/1975	91 0.04 9	-5.3 0.66 1	-22.0 0.58 100	-38.0 0.55 100	NA	12.3 0.47 15	1.0 0.51 100	-24.0 0.80 100	-0.32 0.82 100	-0.26 0.83 1	-0.12 0.69 40	0.21 0.80 1	88.0
FMC735 MR. BOURGEOIS FJE C1	1973/1975	NA	3.0 0.52 80	10.0 0.38 90	14.0 0.30 95	NA	-5.6 0.13 100	-1.0 0.21 100	-10.0 0.71 100	0.18 0.74 30	-1.15 0.75 1	1.10 0.48 1	0.01 0.71 50	108.3
FMC903 OULTONS AVON APOLLON 1ST	1973/1975	NA	5.2 0.54 100	17.0 0.43 65	23.0 0.33 85	NA	-10.3 0.16 100	-2.0 0.25 100	2.0 0.71 80	0.74 0.74 1	-0.34 0.75 1	1.27 0.49 1	-0.14 0.71 100	118.4
MC5512 SIR VAH 5C	1973/1975	NA	0.0 0.52 30	0.0 0.38 100	-12.0 0.27 100	NA	-0.7 0.16 95	-1.0 0.23 100	12.0 0.63 40	-0.14 0.67 100	-0.02 0.69 1	-0.28 0.52 60	0.00 0.64 60	91.0
MC2428 T. G. CONCEPTIO 26A	1973/1975	NA	-2.7 0.50 4	-2.0 0.40 100	-2.0 0.33 100	NA	-1.1 0.17 95	-2.0 0.25 100	-1.0 0.72 90	0.10 0.75 30	-0.08 0.76 1	0.22 0.50 9	-0.06 0.72 95	92.7
FMC707 WAT - CHA ALGER ABRAHAM	1973/1975	65 0.01 35	1.6 0.52 55	12.0 0.39 85	26.0 0.33 80	NA	-4.2 0.19 100	2.0 0.26 100	-3.0 0.73 95	-0.02 0.75 90	0.38 0.77 1	-0.29 0.53 60	0.02 0.73 40	86.0
FMC1103 AIGLON'S PRIDE	1974/1976	NA	-2.2 0.44 6	-16.0 0.36 100	-36.0 0.36 100	NA	1.7 0.15 85	-6.0 0.22 100	-15.0 0.72 100	0.32 0.75 2	-0.68 0.77 1	1.09 0.65 1	0.00 0.73 60	108.2
MC8406 BEAU JOHN 50	1974/1976	60 0.04 45	0.4 0.68 35	-7.0 0.58 100	-27.0 0.54 100	NA	1.3 0.57 85	-2.0 0.57 100	11.0 0.74 40	0.10 0.77 30	-0.37 0.78 1	0.13 0.65 15	0.25 0.74 1	124.3
FMC704 CENTENNIAL AIGLON	1974/1976	59 0.07 45	-3.6 0.65 2	-8.0 0.51 100	-14.0 0.51 100	NA	-3.4 0.37 100	-7.0 0.42 100	-4.0 0.83 95	-0.04 0.85 90	0.11 0.86 1	0.00 0.76 30	-0.09 0.83 100	76.5
FMC1040 EL - O HERCULES	1974/1976	NA	2.4 0.46 70	10.0 0.36 90	23.0 0.35 85	NA	0.5 0.22 90	5.0 0.27 95	3.0 0.77 80	0.38 0.79 2	-0.83 0.80 1	0.99 0.71 1	0.04 0.77 25	126.9
FMC1049 FISHERLEA BINGO BOB	1974/1976	NA	1.3 0.53 50	-5.0 0.40 100	1.0 0.40 100	NA	7.1 0.18 45	4.0 0.25 100	-7.0 0.81 100	-0.15 0.83 100	-0.90 0.84 1	0.45 0.74 2	0.08 0.81 4	94.0

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
FMC672 FURIEUX	1974/1976	NA	1.3	4.0	-2.0	NA	-2.4	0.0	4.0	-0.14	0.18	-0.45	0.20	103.4
			0.52 50	0.41 100	0.41 100		0.16 100	0.24 100	0.80 70	0.82 100	0.83 1	0.69 80	0.80 1	
FMC587 FUYARD	1974/1976	NA	-0.6	-4.0	-16.0	NA	0.0	-2.0	-19.0	-0.07	-1.76	1.35	-0.17	81.7
			0.43 20	0.33 100	0.32 100		0.24 90	0.27 100	0.69 100	0.72 90	0.74 1	0.60 1	0.70 100	
FMC1178 HAKIM	1974/1976	NA	1.8	8.0	12.0	NA	-2.1	2.0	1.0	0.16	-0.90	0.87	-0.16	92.4
			0.37 60	0.24 95	0.23 95		0.08 95	0.13 100	0.65 85	0.68 30	0.70 1	0.58 1	0.65 100	
FMC1315 HANNIBAL BM	1974/1976	24	4.8	14.0	22.0	0.4	-2.6	5.0	3.0	-0.51	-0.42	-0.60	0.03	66.4
		0.19 80	0.86 95	0.81 80	0.79 85	0.07 25	0.79 100	0.80 100	0.83 80	0.85 100	0.86 1	0.88 90	0.84 30	
FMC1316 HIDALGO BM	1974/1976	NA	2.4	-6.0	-11.0	NA	2.9	0.0	-11.0	-0.23	0.43	-0.29	-0.15	52.2
			0.56 70	0.42 100	0.44 100		0.08 75	0.19 100	0.82 100	0.84 100	0.85 1	0.72 60	0.82 100	
FMC1320 HONNEUR BM	1974/1976	NA	-0.2	-7.0	-12.0	NA	1.4	-2.0	-14.0	-0.02	-0.98	0.90	-0.27	69.2
			0.49 25	0.36 100	0.39 100		0.04 85	0.15 100	0.80 100	0.83 90	0.84 1	0.69 1	0.81 100	
MC1773 LAZY JR CADET 17A	1974/1976	NA	-5.1	-2.0	5.0	NA	0.7	0.0	-11.0	0.04	0.30	-0.10	0.04	109.4
			0.54 1	0.41 100	0.38 100		0.29 90	0.33 100	0.78 100	0.80 65	0.82 1	0.71 40	0.78 25	
MC16784 LCR ROYAL MODERNAIRE P6	1974/1976	NA	-0.9	2.0	24.0	NA	0.4	1.0	-9.0	-0.55	0.12	-0.71	-0.09	58.3
			0.51 15	0.39 100	0.39 85		0.18 90	0.25 100	0.78 100	0.80 100	0.82 1	0.67 95	0.78 100	
FMC997 LOCHLO ABRAHAM HERCULES	1974/1976	60	1.0	10.0	20.0	NA	-6.5	-2.0	5.0	-0.04	0.06	-0.14	-0.03	79.1
		0.05 45	0.48 45	0.39 90	0.38 90		0.20 100	0.26 100	0.76 70	0.79 90	0.80 1	0.69 45	0.77 85	
FMC1095 LOCHLO DAGOBERT HUGO	1974/1976	NA	-3.6	1.0	-2.0	NA	-1.3	-1.0	-5.0	0.43	-1.18	1.53	-0.35	91.1
			0.36 2	0.30 100	0.31 100		0.11 95	0.17 100	0.74 95	0.76 1	0.78 1	0.65 1	0.74 100	
MC9751 OLENTANGY WALDOS JUBELL	1974/1976	100	-5.7	-9.0	-25.0	0.0	-8.6	-13.0	-24.0	-0.38	-0.22	-0.30	-0.11	57.5
		0.19 1	0.74 1	0.66 100	0.66 100	0.03 70	0.53 100	0.57 100	0.73 100	0.76 100	0.78 1	0.81 65	0.74 100	
FMC1187 RAINBOW MR CYRANO 32D	1974/1976	96	3.6	8.0	16.0	0.0	-5.4	-1.0	12.0	0.29	1.11	-0.53	0.08	86.2
		0.28 5	0.82 90	0.74 95	0.73 95	0.08 70	0.69 100	0.71 100	0.78 40	0.80 8	0.82 1	0.84 85	0.78 4	
FMC1080 ROCKIE 3D	1974/1976	NA	0.3	-12.0	-13.0	NA	14.2	8.0	-11.0	0.32	-0.98	1.14	0.15	125.7
			0.61 35	0.49 100	0.49 100		0.36 6	0.40 90	0.83 100	0.85 2	0.86 1	0.76 1	0.83 1	

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Mat EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Yld EPD ACC	EPD ACC	
MC4354 SIR CHARLINE CYRANO 2C	1974/1976	44 0.05 60	1.4 0.65 55	8.0 0.59 95	18.0 0.57 90	NA	-14.6 0.58 100	-11.0 0.58 100	8.0 0.78 55	-0.38 0.80 100	0.88 0.82 1	-1.22 0.71 100	0.02 0.78 40	67.5
FMC1160 WAT CHA ABSALON ALGER	1974/1976	NA	0.0 0.47 30	0.0 0.36 100	7.0 0.32 100	NA	2.9 0.20 75	3.0 0.25 100	3.0 0.65 75	0.44 0.69 1	0.20 0.71 1	0.39 0.55 3	0.05 0.66 15	120.0
MC6243 WBF POWER	1974/1976	63 0.13 40	-1.0 0.79 15	-2.0 0.70 100	14.0 0.66 95	0.1 0.01 55	-12.6 0.67 100	-14.0 0.68 100	7.0 0.81 60	-0.14 0.83 100	0.85 0.84 1	-0.91 0.83 100	0.16 0.81 1	79.0
FMC1252 BEAU BINGO AQ 1E	1975/1977	NA	1.8 0.51 60	-8.0 0.39 100	-2.0 0.32 100	NA	4.1 0.18 70	0.0 0.25 100	-14.0 0.74 100	0.02 0.77 65	-0.76 0.78 1	0.61 0.70 1	0.16 0.75 1	112.2
MC5642 CAIDOAK	1975/1977	86 0.15 15	-1.8 0.65 8	-12.0 0.61 100	-13.0 0.55 100	-0.1 0.01 80	-2.2 0.52 100	-8.0 0.55 100	-5.0 0.59 95	0.11 0.62 30	0.26 0.64 1	-0.10 0.70 40	0.11 0.60 1	98.1
FMC1527 ELITE CAID 78E	1975/1977	NA	2.1 0.77 65	4.0 0.70 100	9.0 0.65 100	-0.3 0.03 95	0.9 0.68 90	3.0 0.69 100	-1.0 0.62 90	-0.45 0.65 100	0.24 0.66 1	-0.78 0.70 100	0.11 0.62 1	71.3
FMC580 FAR-WEST B.M.	1975/1977	NA	5.3 0.51 100	14.0 0.40 80	32.0 0.26 65	NA	6.7 0.28 45	14.0 0.32 65	27.0 0.54 2	0.38 0.58 2	-0.66 0.60 1	0.76 0.50 1	-0.04 0.55 90	106.9
FMC1577 IMPERIAL	1975/1977	NA	3.0 0.51 80	-4.0 0.38 100	-18.0 0.34 100	NA	-1.4 0.05 95	-4.0 0.16 100	-6.0 0.73 100	0.15 0.77 30	-0.87 0.78 1	0.95 0.66 1	-0.06 0.75 95	89.1
FMC699 LBC EXCALIBUR 2ND	1975/1977	10 0.03 95	2.0 0.63 65	25.0 0.56 35	34.0 0.53 60	NA	-7.1 0.52 100	5.0 0.53 95	28.0 0.53 1	0.34 0.56 2	-0.17 0.58 1	0.11 0.65 20	0.01 0.53 50	110.0
FMC1381 MAJOR BEAUPRE NO 1E	1975/1977	5 0.19 100	3.5 0.78 85	13.0 0.73 85	36.0 0.70 55	0.2 0.03 45	12.5 0.65 10	19.0 0.68 35	5.0 0.62 70	0.51 0.66 1	-0.79 0.68 1	1.27 0.77 1	-0.10 0.63 100	120.8
FMC816 MLR SIR CARNIVAL	1975/1977	NA	-1.4 0.44 15	5.0 0.34 100	8.0 0.28 100	NA	1.2 0.23 85	4.0 0.27 100	-3.0 0.51 95	-0.14 0.54 100	0.65 0.56 1	-0.67 0.53 95	0.04 0.52 25	87.9
FMC1970 MODERN	1975/1977	50 0.01 50	1.3 0.50 50	13.0 0.40 85	26.0 0.35 75	NA	-1.9 0.29 95	4.0 0.33 100	-9.0 0.62 100	-0.23 0.65 100	-0.05 0.67 1	-0.07 0.61 35	-0.25 0.63 100	67.0
MC11592 MR A B C	1975/1977	40 0.05 65	-3.0 0.56 4	-3.0 0.45 100	-7.0 0.41 100	NA	-9.4 0.28 100	-11.0 0.34 100	3.0 0.75 75	-0.16 0.78 100	1.45 0.79 100	-1.35 0.68 100	0.23 0.76 1	96.3

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
FMC982 MR PALMER PR D3904	1975/1977	47 0.03 55	0.2 0.42 30	1.0 0.28 100	6.0 0.24 100	NA	-5.1 0.09 100	-4.0 0.15 100	-3.0 0.61 95	0.00 0.64 65	-0.37 0.66 1	0.38 0.57 4	-0.21 0.61 100	73.7
FMC1337 PR AIGLON D49	1975/1977	NA	-0.2 0.47 25	-5.0 0.37 100	-3.0 0.34 100	NA	-0.9 0.18 95	-3.0 0.24 100	14.0 0.69 30	0.31 0.74 2	0.68 0.76 1	-0.08 0.66 35	-0.15 0.72 100	88.2
FMC1562 SAULSBROOK ETOILE	1975/1977	NA	0.8 0.51 40	-6.0 0.40 100	-8.0 0.32 100	NA	3.3 0.17 75	0.0 0.25 100	-7.0 0.71 100	0.01 0.73 65	-1.08 0.75 1	0.84 0.69 1	-0.10 0.71 100	89.7
FMC1406 SDC ANCHOR AIGLON 342	1975/1977	33 0.05 70	1.3 0.61 50	-1.0 0.51 100	7.0 0.46 100	NA	-2.2 0.38 100	-3.0 0.42 100	-5.0 0.73 95	-0.11 0.77 100	-0.36 0.78 1	0.22 0.72 9	-0.17 0.75 100	70.4
MC10223 SF BALDY ABE 227	1975/1977	NA	1.4 0.46 55	-2.0 0.34 100	-11.0 0.26 100	NA	4.1 0.23 70	3.0 0.27 100	6.0 0.50 65	-0.01 0.54 90	-0.26 0.56 1	0.06 0.48 20	0.10 0.51 2	104.3
FMC1378 SHAWNEE SIGNAL 58E	1975/1977	NA	-3.6 0.40 2	-10.0 0.31 100	-12.0 0.29 100	NA	4.5 0.16 65	0.0 0.21 100	-6.0 0.62 100	-0.24 0.66 100	0.96 0.68 1	-1.06 0.59 100	0.40 0.63 1	110.2
FMC1413 SIR SDC CABOTIN 334	1975/1977	22 0.05 85	3.8 0.60 90	7.0 0.48 95	6.0 0.46 100	NA	0.5 0.26 90	4.0 0.33 100	2.0 0.78 80	0.36 0.80 2	-0.37 0.82 1	0.73 0.72 1	-0.02 0.78 75	104.4
FMC1622 VALIANT BEAU JET	1975/1977	55 0.02 45	0.7 0.67 40	6.0 0.60 95	6.0 0.59 100	NA	8.1 0.60 35	11.0 0.60 80	-6.0 0.75 100	-0.11 0.78 100	0.62 0.79 1	-0.58 0.72 90	0.11 0.76 1	93.8
FMC1437 WAT CHA TORPILLEUR BINGO	1975/1977	NA	-0.2 0.58 25	-8.0 0.46 100	-8.0 0.41 100	NA	4.7 0.17 65	1.0 0.27 100	-5.0 0.80 100	-0.02 0.82 90	-1.28 0.83 1	0.71 0.75 1	0.26 0.81 1	127.7
FMC1605 WILLIAM CADET	1975/1977	NA	-1.0 0.48 15	-2.0 0.37 100	-6.0 0.36 100	NA	-3.5 0.19 100	-4.0 0.25 100	-3.0 0.72 95	0.06 0.75 65	-0.44 0.77 1	0.43 0.68 3	-0.11 0.73 100	97.6
FMC2043 ADP DE LEXICOURT F5	1976/1978	NA	0.4 0.53 35	-4.0 0.41 100	-13.0 0.35 100	NA	3.9 0.17 70	2.0 0.25 100	-10.0 0.74 100	0.35 0.76 2	-0.48 0.78 1	0.92 0.70 1	-0.09 0.74 100	96.2
FMC1034 BIG DE LEXICOURT	1976/1978	NA	0.7 0.51 40	-3.0 0.38 100	-3.0 0.31 100	NA	7.1 0.15 45	5.0 0.23 95	-2.0 0.68 95	0.63 0.71 1	-0.63 0.72 1	1.33 0.65 1	-0.05 0.68 95	119.6
FMC635 CHARHAT THE BARON	1976/1978	60 0.02 45	2.5 0.62 75	4.0 0.51 100	1.0 0.45 100	NA	1.3 0.37 85	4.0 0.42 100	4.0 0.72 75	0.32 0.75 2	-0.43 0.77 1	0.67 0.71 1	-0.03 0.73 85	104.6

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
FMC1749 HAZEL VALLEY ALGER	1976/1978	NA	5.2 0.61 100	15.0 0.52 75	23.0 0.48 85	NA	-18.1 0.40 100	-11.0 0.44 100	2.0 0.76 80	0.06 0.79 65	-0.35 0.80 1	0.29 0.70 6	0.04 0.77 25	102.9
FMC1578 IRANIEN BM	1976/1978	NA	3.2 0.50 85	-7.0 0.32 100	-22.0 0.20 100	NA	-1.4 0.09 95	-5.0 0.17 100	-1.0 0.65 90	-0.16 0.68 100	-0.06 0.70 1	-0.18 0.60 50	0.13 0.65 1	92.8
FMC1951 JAGUAR	1976/1978	66 0.22 35	0.0 0.84 30	8.0 0.79 95	26.0 0.76 80	-0.4 0.10 100	-5.0 0.76 100	-1.0 0.77 100	7.0 0.79 60	-0.22 0.81 100	0.61 0.83 1	-0.87 0.85 100	0.17 0.80 1	100.5
MC13583 LCR ROYAL PERFECTO 782	1976/1978	47 0.16 55	2.8 0.85 80	1.0 0.82 100	2.0 0.73 100	NA	6.9 0.75 45	8.0 0.77 95	14.0 0.73 30	-0.26 0.75 100	0.93 0.77 1	-1.02 0.80 100	-0.02 0.73 75	70.2
FMC1628 LOCHLO JETHRO 2F	1976/1978	60 0.05 45	3.0 0.57 80	21.0 0.46 50	46.0 0.40 25	0.0 0.01 70	-10.2 0.28 100	0.0 0.34 100	19.0 0.73 15	0.23 0.76 8	0.27 0.77 1	-0.12 0.70 40	0.01 0.74 50	100.9
FMC1104 MM FAIRMONT CADET 27D	1976/1978	NA	-3.7 0.60 2	11.0 0.48 90	21.0 0.41 85	NA	-3.7 0.30 100	2.0 0.36 100	9.0 0.74 50	0.15 0.77 30	0.88 0.78 1	-0.62 0.71 95	0.07 0.75 7	122.5
MC10802 MR IMAGE	1976/1978	NA	-1.3 0.60 15	-4.0 0.48 100	-10.0 0.41 100	NA	-4.8 0.22 100	-7.0 0.31 100	-16.0 0.76 100	-0.27 0.78 100	-0.09 0.80 1	-0.16 0.70 45	0.06 0.76 10	88.5
MC11568 OLENTANGY BENCHMARK	1976/1978	NA	2.1 0.80 65	5.0 0.73 100	7.0 0.73 100	NA	-14.7 0.72 100	-12.0 0.72 100	-6.0 0.76 100	-0.22 0.79 100	-0.93 0.80 1	0.29 0.81 6	-0.02 0.76 75	82.8
MC7415 PCF HONORE	1976/1978	NA	0.6 0.55 40	-5.0 0.43 100	-6.0 0.39 100	NA	0.5 0.15 90	-2.0 0.24 100	-12.0 0.76 100	-0.53 0.78 100	0.33 0.80 1	-0.79 0.68 100	0.00 0.76 60	16.9
MC13530 RCC ROYAL VICTOR	1976/1978	47 0.07 55	-0.6 0.72 20	-14.0 0.61 100	-32.0 0.57 100	0.0 0.01 70	0.7 0.55 90	-6.0 0.57 100	-7.0 0.71 100	-0.15 0.74 100	0.50 0.76 1	-0.43 0.77 80	-0.13 0.72 100	64.5
FMC1778 SIR VRL BEAUFACURE 143F	1976/1978	NA	-2.8 0.67 4	-14.0 0.55 100	-13.0 0.50 100	NA	9.9 0.36 25	3.0 0.42 100	-4.0 0.81 95	-0.17 0.84 100	0.68 0.85 1	-0.65 0.74 95	0.02 0.82 40	79.0
FMC2656 WHITE VALLEY HAMISH	1976/1978	47 0.02 55	1.6 0.68 55	-1.0 0.54 100	-17.0 0.42 100	-0.4 0.02 100	1.1 0.41 85	1.0 0.45 100	-3.0 0.64 95	-0.29 0.68 100	-0.40 0.69 1	-0.05 0.67 35	-0.18 0.65 100	61.3
MC15777 CANADIAN DUKE	1977/1979	99 0.06 2	-7.8 0.65 1	-10.0 0.51 100	-9.0 0.41 100	NA	14.5 0.25 5	10.0 0.34 85	-16.0 0.76 100	-0.05 0.78 90	-0.20 0.80 1	0.21 0.70 10	-0.14 0.76 100	86.2

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC17912 CARDINAL CREEK BIG T	1977/1979	NA	1.4	2.0	6.0	NA	-1.1	0.0	15.0	0.33	0.06	0.34	-0.10	92.5
			0.59 55	0.46 100	0.39 100		0.12 95	0.23 100	0.76 25	0.78 2	0.80 1	0.69 5	0.76 100	
FMC2308 K.C.B. LE MANS	1977/1979	NA	2.2	-7.0	-7.0	NA	-7.1	-11.0	11.0	0.28	-0.09	0.42	-0.03	93.5
			0.62 70	0.51 100	0.42 100		0.39 100	0.43 100	0.72 40	0.74 8	0.76 1	0.66 3	0.72 85	
FMC1471 LBC SIR GAULOIS 2ND	1977/1979	38	0.9	7.0	10.0	0.2	-18.4	-15.0	10.0	0.27	0.13	0.13	0.04	110.4
		0.09 65	0.75 45	0.67 95	0.62 100	0.02 45	0.61 100	0.63 100	0.73 45	0.75 8	0.77 1	0.79 15	0.73 25	
MC15485 QUASAR	1977/1979	99	-7.0	-6.0	-18.0	-0.2	13.0	10.0	-27.0	-0.73	0.83	-1.37	-0.02	53.8
		0.15 2	0.75 1	0.65 100	0.61 100	0.01 90	0.56 9	0.59 85	0.75 100	0.78 100	0.79 1	0.80 100	0.76 75	
MC11039 SIR SANS F25	1977/1979	94	-0.1	16.0	21.0	0.2	0.2	8.0	2.0	0.03	0.19	-0.22	0.08	107.3
		0.22 6	0.82 25	0.74 70	0.71 90	0.07 45	0.69 90	0.71 90	0.73 85	0.75 65	0.77 1	0.81 55	0.73 4	
FMC2350 VALIANT CRUSADER	1977/1979	15	6.3	21.0	35.0	NA	-4.0	7.0	6.0	-0.16	-0.49	-0.08	0.05	93.8
		0.05 90	0.65 100	0.55 50	0.49 55		0.23 100	0.34 95	0.82 60	0.84 100	0.85 1	0.78 35	0.82 15	
FMC2570 ELITE STANDARD 205	1978/1980	NA	5.2	2.0	2.0	NA	4.4	6.0	-3.0	-0.18	-0.17	-0.11	0.13	88.7
			0.68 100	0.55 100	0.44 100		0.39 65	0.44 95	0.73 95	0.76 100	0.77 1	0.73 40	0.74 1	
FMC1785 EXODUS JR.	1978/1980	NA	0.4	9.0	20.0	NA	-5.9	-2.0	1.0	-0.20	0.49	-0.66	0.01	83.8
			0.65 35	0.53 95	0.45 90		0.20 100	0.31 100	0.79 85	0.81 100	0.82 1	0.72 95	0.79 50	
MC18282 FLEMINGS POWER 97H	1978/1980	NA	1.5	-6.0	8.0	NA	-0.6	-3.0	-7.0	-0.07	-0.16	0.11	0.05	82.1
			0.71 55	0.59 100	0.52 100		0.38 95	0.45 100	0.80 100	0.82 90	0.84 1	0.77 20	0.81 15	
FMC2461 GOVERNOR GENERAL	1978/1980	50	1.2	22.0	41.0	-0.6	0.3	11.0	30.0	0.26	0.17	-0.17	0.03	114.7
		0.15 55	0.80 50	0.71 45	0.67 40	0.08 100	0.66 90	0.68 80	0.67 1	0.70 8	0.72 1	0.77 45	0.67 30	
FMC2687 HABITAT 14H	1978/1980	70	-0.1	14.0	31.0	0.1	6.1	13.0	4.0	-0.52	0.38	-1.18	0.08	90.2
		0.03 30	0.69 25	0.55 80	0.47 65	0.02 80	0.28 50	0.37 70	0.79 70	0.81 100	0.82 1	0.78 100	0.79 4	
FMC2711 LOCHLO MIDAS 4H	1978/1980	NA	3.1	16.0	28.0	0.1	3.4	12.0	11.0	0.33	-0.02	0.28	0.05	107.5
			0.62 80	0.48 70	0.36 70	0.03 55	0.22 75	0.31 80	0.73 40	0.76 2	0.77 1	0.71 7	0.74 15	
MC35795 ABC ICEBERG 0054	1983/1985	26	4.0	19.0	35.0	0.0	1.0	10.0	12.0	0.25	0.53	-0.16	0.09	107.2
		0.17 80	0.76 90	0.70 60	0.68 55	0.02 70	0.64 85	0.66 85	0.78 40	0.81 8	0.82 1	0.84 45	0.79 3	

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC17171 BCF CARTWRIGHT 6H	1983/1985	8 0.12 95	1.0 0.72 45	11.0 0.62 90	18.0 0.63 90	-0.1 0.04 80	-9.2 0.56 100	-4.0 0.58 100	0.0 0.84 85	0.57 0.86 1	-1.49 0.87 1	1.64 0.81 1	0.00 0.84 60	128.0
MC36665 BHJC LASER BEAM 54M	1983/1985	46 0.11 55	2.1 0.77 65	10.0 0.78 90	36.0 0.78 55	NA	-11.5 0.64 100	-7.0 0.69 100	5.0 0.87 70	0.48 0.89 1	-0.15 0.89 1	0.90 0.91 1	0.01 0.87 5	128.3
MC35132 DBL HOOK INVESTMENT 0114	1983/1985	62 0.21 40	3.4 0.81 85	10.0 0.73 90	16.0 0.57 95	0.1 0.01 55	1.4 0.56 85	6.0 0.62 95	-6.0 0.88 100	-0.04 0.90 90	-0.90 0.91 1	0.52 0.88 2	0.06 0.89 10	120.6
FMC2241 GRAYCHAR ROUSSEL 276F	1983/1985	26 0.03 80	-0.1 0.74 25	14.0 0.63 80	26.0 0.53 75	0.0 0.01 70	-9.5 0.48 100	-2.0 0.53 100	6.0 0.83 60	0.17 0.85 30	0.56 0.86 1	-0.18 0.78 50	-0.02 0.83 75	95.8
MC29819 GV KING 7M	1983/1985	59 0.19 45	-0.4 0.85 25	-3.0 0.79 100	-5.0 0.80 100	NA	8.0 0.65 35	7.0 0.70 95	-10.0 0.85 100	-0.07 0.87 90	0.12 0.88 1	-0.18 0.91 50	0.05 0.86 15	86.9
FMC4595 NERO LWR 2N	1983/1985	22 0.13 85	0.0 0.61 30	4.0 0.47 100	19.0 0.45 90	NA	-4.7 0.27 100	-3.0 0.34 100	1.0 0.81 85	-0.01 0.83 90	-0.39 0.84 1	0.16 0.74 15	-0.04 0.81 90	85.5
MC19400 LAZY JR CADET 109H	1984/1986	80 0.15 20	-0.9 0.78 15	22.0 0.72 45	54.0 0.72 15	0.3 0.06 35	-3.4 0.61 100	8.0 0.65 95	15.0 0.80 25	0.03 0.83 65	0.70 0.84 1	-0.59 0.87 90	0.02 0.81 40	119.8
MC23591 LGR IMPACT 503K	1984/1986	23 0.15 80	6.6 0.85 100	26.0 0.80 30	44.0 0.80 30	0.4 0.09 25	-3.4 0.72 100	10.0 0.75 85	18.0 0.80 15	0.45 0.82 1	-0.37 0.84 1	0.78 0.88 1	-0.04 0.81 90	115.5
MC50802 RCC ROYAL POWERHOUSE3838	1984/1986	42 0.35 60	0.3 0.90 35	4.0 0.85 100	3.0 0.84 100	-0.4 0.14 100	9.2 0.77 30	11.0 0.80 80	0.0 0.80 85	-0.35 0.82 100	1.09 0.83 1	-1.37 0.88 100	0.14 0.80 1	70.9
FMC2590 SIR INTERNATIONAL 27H	1984/1986	70 0.19 30	2.3 0.70 70	8.0 0.60 95	29.0 0.56 70	0.0 0.01 70	4.1 0.42 70	8.0 0.48 90	-6.0 0.85 100	0.13 0.87 30	-0.42 0.88 1	0.68 0.86 1	-0.02 0.85 75	105.1
MC49573 STONE-DEL ENERGIZER 219	1984/1986	9 0.16 95	4.6 0.83 95	28.0 0.77 20	31.0 0.76 65	0.1 0.03 55	-39.1 0.62 100	-25.0 0.67 100	15.0 0.74 25	-0.05 0.77 90	-0.18 0.78 1	-0.23 0.83 55	-0.04 0.75 9	79.3
MC41899 BCJ PETER PATRIATION 5P	1985/1987	73 0.23 30	2.6 0.81 75	12.0 0.73 85	18.0 0.71 90	-0.1 0.10 80	5.8 0.67 55	12.0 0.69 75	6.0 0.73 65	-0.40 0.76 100	0.59 0.77 1	-1.19 0.83 100	0.20 0.73 1	70.5
MC40344 HPT PROPHETS PROSPECT 9P	1985/1987	NA 0.63 100	6.1 0.61 100	6.0 0.61 95	23.0 0.62 85	NA	1.9 0.36 80	5.0 0.44 100	-4.0 0.75 95	-0.11 0.77 100	-0.51 0.79 1	0.35 0.81 4	0.04 0.75 25	86.0

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC49290 LAZY JR LASER BEAM 11R	1985/1987	NA	5.5 0.64 100	26.0 0.69 25	48.0 0.71 20	NA	-2.6 0.48 100	11.0 0.55 85	23.0 0.79 4	0.34 0.81 2	-0.19 0.82 1	0.38 0.85 4	0.01 0.80 50	113.4
MC48390 MBK ACTIVATOR 342R	1985/1987	24 0.03 80	4.3 0.74 95	18.0 0.61 65	41.0 0.53 40	-0.1 0.05 80	-2.6 0.40 100	6.0 0.47 95	7.0 0.79 60	-0.05 0.81 90	0.30 0.82 1	-0.43 0.80 80	0.07 0.79 7	93.6
MC57354 MR FEIST HIGHPOCKETS	1985/1987	86 0.21 15	1.5 0.88 55	11.0 0.82 90	27.0 0.77 75	NA	1.2 0.75 85	7.0 0.77 95	-13.0 0.77 100	-0.32 0.79 100	0.33 0.81 1	-0.37 0.85 70	-0.12 0.77 100	71.4
MC51294 RCC ROYAL STAND II 3984	1985/1987	NA	2.8 0.58 80	2.0 0.43 100	-4.0 0.43 100	0.1 0.02 55	4.7 0.23 65	6.0 0.30 95	-8.0 0.77 100	0.03 0.80 65	-1.03 0.81 1	0.91 0.68 1	-0.14 0.78 100	82.4
MC44477 SELKIRK ODYSSEY 402R	1985/1987	72 0.11 30	7.6 0.68 100	18.0 0.59 65	40.0 0.58 40	NA	14.0 0.32 6	23.0 0.41 20	16.0 0.79 20	0.16 0.82 30	0.47 0.83 1	-0.09 0.83 40	0.17 0.80 1	127.7
MC34801 ECEE YUKON JACK 60N	1987/1989	52 0.07 50	3.5 0.73 85	-1.0 0.62 100	5.0 0.59 100	0.0 0.02 70	8.7 0.44 30	8.0 0.50 90	-14.0 0.85 100	-0.47 0.87 100	1.07 0.88 1	-1.11 0.84 100	-0.01 0.85 65	44.0
MC77509 FCC RUSTY 140S	1987/1989	NA	8.6 0.66 100	16.0 0.60 70	29.0 0.62 70	NA	2.3 0.27 80	11.0 0.38 85	10.0 0.85 45	0.08 0.87 65	-0.94 0.88 1	0.70 0.87 1	0.00 0.86 60	110.0
MC60951 MISTER T HHT 38S	1987/1989	8 0.22 95	5.5 0.80 100	10.0 0.71 90	21.0 0.67 85	NA	0.3 0.45 90	6.0 0.54 95	7.0 0.87 60	0.35 0.89 2	-0.26 0.90 1	0.79 0.91 1	-0.09 0.87 100	109.8
MC62739 PCFL PADDOCK JR. 55S	1987/1989	3 0.05 100	4.4 0.75 95	9.0 0.66 95	15.0 0.65 95	0.9 0.13 4	-18.3 0.52 100	-14.0 0.57 100	17.0 0.85 20	0.76 0.87 1	0.06 0.88 1	0.81 0.85 1	0.02 0.85 40	109.2
MC83328 RCC BIG WHEEL 3298 PLD	1987/1989	37 0.20 65	3.9 0.74 90	14.0 0.63 80	32.0 0.60 65	0.3 0.10 35	8.0 0.39 35	15.0 0.47 60	2.0 0.87 80	-0.37 0.89 100	0.44 0.90 1	-0.80 0.87 100	-0.03 0.87 85	63.9
MC64143 SVC SIR TNT 558T	1987/1989	46 0.26 55	2.6 0.87 75	14.0 0.80 80	19.0 0.79 90	0.0 0.04 70	12.7 0.63 9	20.0 0.69 35	2.0 0.89 80	0.74 0.91 1	-0.94 0.91 1	1.61 0.93 1	-0.25 0.89 100	106.1
MC57740 WCD PROSPECT SUPREME 10S	1987/1989	41 0.03 65	0.1 0.68 30	23.0 0.57 40	33.0 0.56 60	0.1 0.01 55	-1.2 0.22 95	10.0 0.34 85	6.0 0.82 65	-0.58 0.84 100	0.64 0.86 1	-1.22 0.83 100	-0.02 0.83 75	81.9
MC63910 CHARDEL RAMBO 8T	1988/1990	5 0.23 100	1.3 0.73 50	-9.0 0.60 100	-29.0 0.51 100	NA	7.0 0.30 45	3.0 0.40 100	-13.0 0.87 100	-0.25 0.89 100	-0.79 0.90 1	0.28 0.85 7	0.06 0.87 10	79.0

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC82375 ERNMORE KARL WITHA K 25W	1988/1990	39 0.26 65	6.8 0.88 100	29.0 0.84 15	54.0 0.83 15	0.9 0.11 4	-6.4 0.75 100	8.0 0.78 90	16.0 0.80 20	0.45 0.82 1	-0.54 0.83 1	0.77 0.88 1	0.10 0.80 2	135.0
MC77507 FCC EXPECTATION 35R	1988/1990	30 0.05 75	3.5 0.65 85	38.0 0.55 2	80.0 0.50 1	NA	0.5 0.21 90	20.0 0.32 30	21.0 0.77 7	0.25 0.80 8	0.03 0.81 1	0.07 0.80 20	0.15 0.78 1	146.0
MC80012 FDB BAXTER 114W	1988/1990	30 0.05 75	5.0 0.64 95	31.0 0.57 15	54.0 0.53 15	NA	-6.9 0.28 100	9.0 0.38 90	21.0 0.75 8	-0.06 0.77 90	0.27 0.79 1	-0.40 0.80 75	-0.03 0.75 85	99.1
MC69139 HVR SHEER POWER I	1988/1990	77 0.35 25	3.8 0.89 90	9.0 0.84 90	8.0 0.81 100	0.2 0.09 45	-9.2 0.78 100	-5.0 0.80 100	1.0 0.80 85	-0.07 0.82 90	-0.37 0.84 1	-0.04 0.88 30	0.13 0.80 1	97.4
MC68400 JSC CHAIRMAN 103U	1988/1990	11 0.41 95	8.2 0.93 100	36.0 0.89 4	48.0 0.87 20	0.5 0.15 20	-9.1 0.85 100	9.0 0.86 90	4.0 0.80 70	-0.43 0.82 100	0.85 0.83 1	-1.00 0.88 100	-0.11 0.80 100	59.1
MC70749 MSW KAPONE 30U	1988/1990	50 0.38 55	5.3 0.86 100	15.0 0.80 75	15.0 0.77 95	0.3 0.15 35	-13.2 0.72 100	-6.0 0.75 100	2.0 0.82 85	0.10 0.84 30	-0.71 0.85 1	0.45 0.89 2	0.07 0.82 7	80.4
MC70729 PEMBINA ULTRAVOX 3U	1988/1990	33 0.41 70	7.5 0.92 100	19.0 0.88 60	34.0 0.85 55	0.7 0.18 8	-1.8 0.83 95	8.0 0.85 90	16.0 0.81 20	0.19 0.83 30	0.00 0.84 1	0.22 0.89 9	0.07 0.81 7	102.1
MC81889 SFLC HIGH EXCELLENCE 21U	1988/1990	96 0.40 5	-0.2 0.82 25	4.0 0.74 100	24.0 0.69 80	NA	-9.4 0.57 100	-7.0 0.63 100	-8.0 0.89 100	-0.56 0.91 100	0.50 0.91 1	-0.74 0.92 100	-0.07 0.89 100	78.5
MC77595 SILVERSTREAM ULVERSTONE	1988/1990	6 0.20 95	3.1 0.77 80	28.0 0.67 20	41.0 0.63 40	-0.2 0.01 90	-7.4 0.45 100	7.0 0.52 95	9.0 0.85 50	0.81 0.87 1	-0.07 0.88 1	0.97 0.88 1	-0.10 0.85 100	124.9
MC70692 AHH STYLIST 16U	1989/1991	0 0.25 100	9.3 0.91 100	35.0 0.87 5	45.0 0.86 30	0.4 0.05 25	5.2 0.81 60	23.0 0.83 20	29.0 0.89 1	0.49 0.91 1	0.29 0.91 1	0.09 0.94 20	-0.07 0.90 100	85.7
MC79123 ERNMORE ULYSEES 21U	1989/1991	36 0.08 70	1.8 0.87 60	14.0 0.82 80	29.0 0.82 70	0.0 0.01 70	-7.8 0.68 100	-1.0 0.73 100	17.0 0.87 20	0.14 0.88 30	-0.98 0.89 1	0.51 0.87 2	0.03 0.87 30	108.6
MC79438 EXL KUGAR 731W	1989/1991	9 0.26 95	3.2 0.82 85	18.0 0.73 65	27.0 0.73 75	0.2 0.08 45	-2.0 0.51 95	7.0 0.58 95	15.0 0.87 25	0.17 0.88 30	-1.70 0.89 1	1.00 0.91 1	0.24 0.87 1	145.5
MC92665 MLU CONGRESS 43X	1989/1991	6 0.31 100	6.0 0.87 100	21.0 0.80 50	48.0 0.78 25	0.4 0.09 25	6.5 0.68 50	17.0 0.72 45	13.0 0.89 35	0.23 0.91 8	0.32 0.91 1	-0.02 0.93 30	0.11 0.89 1	116.6

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC71989 NZL TOP GUN 97U	1989/1991	26 0.28 80	4.8 0.86 95	10.0 0.80 90	9.0 0.80 100	0.8 0.15 5	15.6 0.69 4	21.0 0.73 25	-2.0 0.87 90	0.22 0.89 8	-0.10 0.89 1	0.43 0.92 3	-0.22 0.87 100	71.9
MC93590 PJD THE EDGE 14X	1989/1991	31 0.19 75	5.2 0.79 100	27.0 0.69 25	51.0 0.69 15	NA	2.8 0.52 75	16.0 0.58 50	-6.0 0.55 100	-0.18 0.58 100	0.04 0.60 1	0.01 0.71 25	-0.11 0.56 100	95.1
MC82309 SPARROWS SHERIFF 315W	1989/1991	30 0.48 75	6.5 0.92 100	34.0 0.88 7	57.0 0.87 8	0.3 0.22 35	0.0 0.83 90	17.0 0.85 50	31.0 0.89 1	-0.01 0.90 90	0.21 0.91 1	-0.67 0.93 95	0.25 0.89 1	114.3
MC62602 TARZAN DE LAGUERINIERE2T	1989/1991	52 0.02 50	4.1 0.71 90	12.0 0.58 85	5.0 0.60 100	0.1 0.01 55	-7.4 0.36 100	-2.0 0.43 100	13.0 0.88 35	-0.02 0.89 90	-1.02 0.90 1	0.61 0.83 1	-0.02 0.88 75	108.3
MC82822 WBS COSBY 12W	1989/1991	25 0.05 80	5.7 0.78 100	15.0 0.68 75	-3.0 0.70 100	NA	-0.2 0.36 90	8.0 0.47 95	1.0 0.88 85	-0.09 0.89 90	0.74 0.90 1	-0.70 0.90 95	-0.16 0.88 100	32.7
MC103432 CHARDEL INTREPID 5Y	1990/1992	3 0.23 100	8.9 0.82 100	23.0 0.72 40	36.0 0.72 55	-0.2 0.01 90	-10.3 0.57 100	1.0 0.62 100	7.0 0.87 60	-0.07 0.87 90	-0.22 0.88 1	0.00 0.90 30	0.03 0.87 30	80.6
MC105979 LEVI'S PATRIOT 7Y	1990/1992	55 0.39 45	2.1 0.85 65	3.0 0.78 100	20.0 0.74 90	-0.3 0.02 95	23.6 0.60 1	25.0 0.66 9	9.0 0.90 50	0.45 0.91 1	-0.53 0.92 1	0.76 0.93 1	0.29 0.90 1	151.9
MC102088 RXE JESSE JAMES 7Y	1990/1992	34 0.03 70	6.9 0.66 100	19.0 0.56 60	24.0 0.58 80	-0.4 0.04 100	-2.0 0.28 95	7.0 0.37 95	1.0 0.85 85	-0.47 0.87 100	1.65 0.88 100	-1.61 0.81 100	-0.04 0.86 90	54.1
MC91326 SODERGLEN MISTER P 207X	1990/1992	52 0.28 50	6.7 0.84 100	21.0 0.78 50	24.0 0.76 80	-0.1 0.03 80	-13.8 0.63 100	-3.0 0.68 100	-7.0 0.86 100	-0.19 0.87 100	0.63 0.88 1	-0.54 0.90 85	-0.08 0.86 100	45.0
MC68772 VAL-END TRADITION 74T	1990/1992	23 0.40 80	5.1 0.91 100	29.0 0.86 20	45.0 0.84 30	0.5 0.17 20	4.1 0.78 70	18.0 0.81 40	12.0 0.86 35	0.07 0.87 65	-0.71 0.87 1	0.41 0.91 3	0.03 0.86 30	126.7
MC117224 CHARDEL MIRAGE 1002Z	1992/1994	0 0.30 65	3.6 0.84 90	15.0 0.71 75	9.0 0.71 100	-0.2 0.07 90	-4.6 0.58 100	3.0 0.62 100	11.0 0.80 40	0.09 0.82 65	-0.97 0.83 1	0.45 0.86 2	0.06 0.80 10	92.4
MC138377 DC BEA COOL 720Z ET	1992/1994	12 0.30 95	6.4 0.89 100	14.0 0.81 80	28.0 0.75 75	0.5 0.10 20	13.1 0.70 8	20.0 0.74 30	5.0 0.82 70	0.41 0.84 1	-1.15 0.85 1	1.53 0.88 1	-0.14 0.82 100	113.1
MC109920 FVC TANGO 907Y	1992/1994	31 0.40 75	7.9 0.91 100	32.0 0.86 8	54.0 0.85 15	0.0 0.19 70	-4.1 0.79 100	12.0 0.81 75	14.0 0.83 25	0.47 0.85 1	0.50 0.86 1	0.37 0.90 4	-0.26 0.83 100	91.6

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC128804 SVC APPLAUSE 127A	1992/1994	34 0.22 70	3.4 0.81 85	4.0 0.73 100	-12.0 0.73 100	0.1 0.01 55	16.2 0.51 3	18.0 0.58 40	-12.0 0.82 100	-0.37 0.84 100	-0.37 0.85 1	-0.23 0.88 55	-0.23 0.82 100	30.1
MC117703 WAJP DOWNTOWN BROWN 1Z	1992/1994	87 0.41 15	1.8 0.85 60	10.0 0.75 90	-8.0 0.72 100	0.1 0.06 55	-12.9 0.61 100	-8.0 0.66 100	-12.0 0.81 100	-0.50 0.83 100	0.87 0.85 1	-1.46 0.88 100	0.07 0.82 7	36.4
MC131315 ALT MR TANGO 52A	1993/1995	53 0.03 50	7.3 0.77 100	24.0 0.68 35	45.0 0.60 30	NA	3.4 0.43 75	15.0 0.51 55	31.0 0.85 1	0.20 0.87 8	0.17 0.88 1	-0.23 0.84 55	0.10 0.86 2	100.1
MC154440 BRAMPTON FOURSTAR	1993/1995	5 0.29 100	8.4 0.85 100	37.0 0.77 3	54.0 0.73 15	-0.2 0.16 90	-2.2 0.64 100	16.0 0.68 50	24.0 0.86 4	0.46 0.88 1	-0.02 0.89 1	0.47 0.91 2	-0.19 0.87 100	91.7
MC106929 HICKS YAZIMAN 29Y	1993/1995	12 0.23 95	5.3 0.80 100	1.0 0.70 100	-7.0 0.59 100	-0.4 0.11 100	-10.5 0.49 100	-10.0 0.56 100	-4.0 0.91 95	0.07 0.92 65	-0.42 0.93 1	0.33 0.91 5	0.24 0.89 1	100.1
MC130030 HTA WHITEHOT 105A	1993/1995	1 0.71 30	1.6 0.95 55	21.0 0.92 50	50.0 0.91 20	1.1 0.74 1	7.0 0.87 45	17.0 0.89 45	13.0 0.93 30	0.14 0.94 30	-0.52 0.94 1	0.51 0.96 2	0.00 0.93 60	137.3
MC124668 LAZY JR ZING 32Z	1993/1995	21 0.20 85	5.6 0.83 100	32.0 0.74 9	45.0 0.71 30	0.1 0.05 55	-4.6 0.50 100	12.0 0.58 80	12.0 0.83 35	-0.13 0.85 100	0.66 0.86 1	-0.62 0.87 95	-0.05 0.83 95	95.0
MC141622 A-JAY'S FAST TRACK 71B	1994/1996	10 0.34 95	7.1 0.89 100	42.0 0.80 1	80.0 0.76 1	-0.1 0.13 80	8.5 0.68 35	30.0 0.72 3	35.0 0.81 1	0.06 0.83 65	1.33 0.84 100	-1.36 0.88 100	0.31 0.81 1	122.2
MC153203 CARLSON'S "ICE" 301C	1994/1996	30 0.41 75	5.7 0.89 100	26.0 0.82 30	38.0 0.77 45	0.1 0.09 55	13.7 0.69 7	27.0 0.73 6	14.0 0.89 25	0.30 0.90 2	0.61 0.91 1	-0.11 0.93 40	-0.18 0.88 100	71.6
MC140522 CHARDEL STEEL 254B	1994/1996	71 0.33 30	1.4 0.88 55	13.0 0.82 85	22.0 0.80 85	0.2 0.80 45	4.7 0.63 65	11.0 0.69 80	-1.0 0.89 90	0.08 0.90 65	-0.19 0.91 1	0.29 0.92 6	-0.14 0.86 100	83.0
MC140169 HICKS BILLYJOJIMBOB 3B	1994/1996	29 0.08 75	7.1 0.57 100	20.0 0.45 55	31.0 0.47 65	-0.3 0.05 95	-2.7 0.19 100	8.0 0.28 95	15.0 0.82 25	0.05 0.83 65	-0.19 0.84 1	-0.10 0.77 40	0.25 0.81 1	111.0
MC123724 JC HOSS H98-2 PLD ET	1994/1996	54 0.26 50	3.0 0.80 80	21.0 0.72 50	54.0 0.73 15	0.3 0.09 35	9.5 0.57 25	20.0 0.62 30	21.0 0.81 7	0.67 0.82 1	-0.32 0.83 1	0.86 0.85 1	0.08 0.80 4	156.1
MC85384 MNE GOLDEN EAGLE 25W	1994/1996	43 0.47 60	1.2 0.89 50	14.0 0.83 80	38.0 0.82 45	-0.5 0.20 100	13.6 0.75 7	20.0 0.78 30	-4.0 0.82 95	-0.03 0.84 90	0.13 0.86 1	0.16 0.89 15	-0.18 0.83 100	100.0

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Mat EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	Yld EPD ACC	EPD ACC	
MC154224 SVC JUSTICE 301C	1994/1996	21 0.17 85	5.2 0.75 100	25.0 0.65 30	28.0 0.66 75	NA	-5.3 0.44 100	7.0 0.51 95	9.0 0.78 50	0.24 0.80 8	-0.39 0.82 1	0.60 0.85 1	-0.29 0.78 100	75.2
MC153400 BDX PRESTO'S BEST 45C	1996/1998	93 0.26 8	1.0 0.80 45	25.0 0.56 30	64.0 0.51 4	NA	3.0 0.27 75	16.0 0.37 55	15.0 0.80 25	0.01 0.81 65	0.49 0.82 1	-0.33 0.80 65	-0.02 0.79 75	127.2
MC153483 HTA NORTHERN LIGHT 357C	1996/1998	61 0.59 40	2.9 0.92 80	22.0 0.88 45	43.0 0.86 35	0.5 0.38 20	8.9 0.80 30	20.0 0.83 30	15.0 0.86 25	0.14 0.88 30	0.93 0.89 1	-0.55 0.92 90	-0.01 0.87 65	97.2
MC179243 HTA STOCKMAN PLD 534E	1996/1998	47 0.49 55	5.1 0.91 100	19.0 0.85 60	52.0 0.83 15	0.3 0.44 35	8.3 0.72 35	18.0 0.76 45	14.0 0.82 25	0.43 0.83 1	-0.84 0.84 1	1.26 0.89 1	-0.08 0.81 100	141.3
MC138709 JDF BAILEY 2B	1996/1998	17 0.38 90	3.9 0.90 90	13.0 0.84 85	30.0 0.82 70	-0.3 0.24 95	3.4 0.70 75	10.0 0.75 85	12.0 0.85 35	0.15 0.86 30	-0.21 0.87 1	0.40 0.90 3	0.01 0.84 50	109.7
MC178988 KOP GOLD STEEL 66E	1996/1998	35 0.45 70	4.1 0.91 90	14.0 0.85 80	37.0 0.83 50	-0.5 0.14 100	3.1 0.72 75	10.0 0.76 85	6.0 0.80 60	0.01 0.82 65	-0.40 0.83 1	0.41 0.88 3	0.00 0.80 60	112.7
MC180215 LT RAMROD 4148	1996/1998	71 0.44 30	1.2 0.91 50	20.0 0.85 55	32.0 0.83 65	NA	2.9 0.74 75	13.0 0.78 70	14.0 0.89 30	0.63 0.90 1	0.29 0.91 1	0.25 0.93 8	0.16 0.89 1	132.5
MC166129 MNE BOLD VENTURE 38D	1996/1998	70 0.44 30	1.6 0.82 55	19.0 0.72 60	37.0 0.68 50	0.5 0.11 20	6.0 0.50 50	16.0 0.57 55	8.0 0.85 55	0.40 0.87 1	0.18 0.88 1	0.20 0.90 10	0.05 0.86 15	116.8
MC179343 MNE EXCLUSIVE 17E	1996/1998	57 0.56 45	3.6 0.91 90	18.0 0.86 65	34.0 0.83 55	-0.1 0.44 80	17.1 0.76 2	26.0 0.79 7	15.0 0.85 25	0.47 0.86 1	-0.31 0.87 1	0.50 0.91 2	0.13 0.84 1	131.8
MC166066 SPARROWS WYATT 2D	1996/1998	29 0.05 75	5.8 0.84 100	42.0 0.73 1	82.0 0.71 1	NA	-2.2 0.53 100	19.0 0.60 35	37.0 0.82 1	-0.03 0.84 90	1.80 0.85 100	-1.59 0.89 100	0.06 0.82 10	98.0
MC165568 TARGET DERRICK 11D	1996/1998	20 0.31 85	5.3 0.86 100	28.0 0.75 20	52.0 0.70 15	-0.1 0.35 80	3.2 0.55 75	17.0 0.62 45	18.0 0.80 15	0.56 0.82 1	-0.05 0.83 1	0.59 0.87 1	-0.06 0.80 95	115.8
MC167010 A-JAY'S MERCURY 73D	1997/1999	31 0.40 75	6.5 0.87 100	38.0 0.78 2	71.0 0.71 2	0.6 0.24 15	5.9 0.59 55	25.0 0.65 9	39.0 0.80 1	0.27 0.82 8	-0.16 0.84 1	0.03 0.87 25	0.07 0.81 7	132.0
FMC6176 BAR 7 EASY CANADIEN 14C	1997/1999	15 0.11 90	5.6 0.79 100	17.0 0.62 70	2.0 0.58 100	-0.3 0.06 95	-1.1 0.32 95	7.0 0.42 95	1.0 0.81 85	-0.13 0.84 100	-0.13 0.85 1	-0.09 0.83 40	-0.11 0.82 100	66.2

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Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC189511 CHARDEL TRIBUTE 623F	1997/1999	36 0.24 70	6.0 0.83 100	22.0 0.75 45	47.0 0.75 25	0.1 0.01 55	8.8 0.51 30	20.0 0.59 30	12.0 0.82 35	0.06 0.84 65	0.56 0.85 1	-0.26 0.88 60	-0.10 0.82 100	83.2
MC166053 EVC HOT KING 24D	1997/1999	45 0.46 60	3.5 0.91 85	19.0 0.84 60	56.0 0.78 10	1.3 0.46 1	15.0 0.62 5	24.0 0.69 15	5.0 0.82 65	-0.13 0.84 100	-0.33 0.85 1	0.19 0.89 15	0.04 0.82 25	123.7
MC170577 FM PREMONITION 131D	1997/1999	80 0.32 20	-1.9 0.80 8	-11.0 0.70 100	-31.0 0.62 100	-0.1 0.05 80	-0.4 0.43 95	-6.0 0.52 100	-28.0 0.78 100	-0.42 0.81 100	0.18 0.82 1	-0.31 0.85 65	-0.23 0.79 100	35.3
MC189462 HTA CATERPILLAR 610F	1997/1999	1 0.37 100	8.2 0.88 100	39.0 0.80 2	65.0 0.78 3	1.2 0.53 1	-7.6 0.62 100	12.0 0.68 75	32.0 0.83 1	0.64 0.85 1	-0.94 0.86 1	1.20 0.90 1	0.08 0.84 4	151.4
MC166274 MERIT 62D	1997/1999	76 0.42 25	-0.1 0.86 25	18.0 0.79 65	40.0 0.75 40	0.9 0.14 4	18.6 0.62 1	28.0 0.68 5	10.0 0.84 45	0.04 0.86 65	-0.45 0.87 1	0.23 0.89 9	-0.03 0.84 85	129.7
MC179371 MNE ICEBREAKER 23E	1997/1999	16 0.28 90	5.5 0.83 100	34.0 0.75 7	52.0 0.76 15	NA	-1.0 0.49 95	16.0 0.58 55	23.0 0.84 5	0.95 0.86 1	0.74 0.87 1	0.52 0.89 2	-0.16 0.84 100	103.8
MC154323 NOR CHATTAHOOCHEE 3C	1997/1999	22 0.41 85	5.3 0.89 100	32.0 0.83 10	62.0 0.84 5	-0.1 0.43 80	-14.7 0.70 100	1.0 0.74 100	33.0 0.86 1	0.62 0.88 1	-0.63 0.89 1	1.00 0.92 1	0.01 0.86 50	140.4
MC148488 P-3 ACE LAD 2-150B	1997/1999	19 0.28 85	4.4 0.84 95	17.0 0.75 65	56.0 0.71 9	0.0 0.01 70	13.0 0.57 9	22.0 0.63 25	26.0 0.83 2	0.17 0.85 30	-0.03 0.86 1	0.07 0.88 20	0.19 0.79 1	132.0
MC174158 SHARPHILLS HURRICANE154D	1997/1999	41 0.40 65	4.3 0.91 95	16.0 0.84 75	20.0 0.82 90	0.1 0.50 55	10.9 0.67 20	19.0 0.73 35	10.0 0.81 45	0.00 0.83 65	-0.13 0.84 1	-0.10 0.89 40	0.08 0.81 4	93.1
MC187431 SILVERBIRCH STRIKE 76E	1997/1999	31 0.36 75	2.3 0.85 70	24.0 0.75 35	43.0 0.68 35	0.8 0.28 5	27.8 0.49 1	40.0 0.58 1	2.0 0.77 80	0.02 0.79 65	0.78 0.81 1	-0.59 0.85 90	0.00 0.77 60	105.6
MC190391 SLY EASTWOOD PLD 32F	1997/1999	75 0.55 25	-0.4 0.92 25	13.0 0.86 80	9.0 0.82 100	-0.5 0.44 100	-9.2 0.76 100	-3.0 0.79 100	-1.0 0.81 90	-0.07 0.83 90	0.57 0.84 1	-0.58 0.89 90	-0.11 0.81 100	73.0
MC193383 SVC THE SNAKE 30E	1997/1999	61 0.21 40	5.3 0.74 100	20.0 0.61 50	38.0 0.60 45	-0.3 0.16 95	0.7 0.28 90	11.0 0.39 80	6.0 0.79 65	-0.17 0.82 100	0.52 0.83 1	-0.52 0.84 85	-0.08 0.80 100	73.7
MC183488 AAA POLLED PAUL 7E	1998/2000	95 0.50 6	-3.8 0.88 2	20.0 0.82 55	29.0 0.79 70	-0.6 0.34 100	15.1 0.62 4	25.0 0.69 9	-6.0 0.89 100	-0.15 0.91 100	0.63 0.91 1	-0.80 0.93 100	-0.04 0.88 90	91.4

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC189858 AJAYS TRACK SPECIAL 55F	1998/2000	53 0.35 50	3.6 0.82 90	21.0 0.68 50	44.0 0.66 30	0.1 0.08 55	11.5 0.42 15	22.0 0.51 20	16.0 0.80 20	0.01 0.82 65	0.04 0.84 1	-0.19 0.86 50	0.13 0.80 1	122.9
FMC6401 ANJOU EXTRA 4E	1998/2000	48 0.22 55	3.5 0.80 85	7.0 0.68 95	10.0 0.61 100	0.1 0.07 55	5.0 0.36 60	8.0 0.47 90	-9.0 0.85 100	0.01 0.87 65	-1.29 0.88 1	0.87 0.88 1	0.07 0.82 7	105.5
MC200720 BKJ BARBWIRE 716G	1998/2000	34 0.37 70	4.8 0.86 95	6.0 0.76 95	16.0 0.69 95	-0.7 0.35 100	21.6 0.53 1	24.0 0.61 15	-3.0 0.81 95	0.13 0.83 30	0.06 0.84 1	0.21 0.88 10	-0.05 0.81 95	83.4
MC166053 EVC HOT KING 24D	1998/2000	45 0.46 60	3.5 0.91 85	19.0 0.84 60	56.0 0.78 10	1.3 0.46 1	15.0 0.62 5	24.0 0.69 15	5.0 0.82 65	-0.13 0.84 100	-0.33 0.85 1	0.19 0.89 15	0.04 0.82 25	123.7
MC170577 FM PREMONITION 131D	1998/2000	81 0.32 20	-1.9 0.80 8	-11.0 0.70 100	-31.0 0.62 100	-0.1 0.05 80	-0.4 0.43 95	-6.0 0.52 100	-28.0 0.78 100	-0.42 0.81 100	0.18 0.82 1	-0.31 0.85 65	-0.23 0.79 100	35.3
MC158303 HTA FROSTY 328C	1998/2000	50 0.34 55	2.4 0.84 70	18.0 0.75 65	36.0 0.73 50	0.8 0.33 5	11.8 0.59 15	21.0 0.64 30	7.0 0.84 60	0.11 0.86 30	-0.38 0.87 1	0.38 0.88 4	-0.05 0.84 95	117.3
MC166274 MERIT 62D	1998/2000	76 0.42 25	-0.1 0.86 25	18.0 0.79 65	40.0 0.75 40	0.9 0.14 4	18.6 0.62 1	28.0 0.68 5	10.0 0.84 45	0.04 0.86 65	-0.45 0.87 1	0.23 0.89 9	-0.03 0.84 85	129.7
MC194728 MORRISON'S HILLCREST MAC	1998/2000	50 0.33 50	2.9 0.89 80	21.0 0.80 50	41.0 0.72 40	0.1 0.39 55	0.6 0.56 90	11.0 0.64 80	13.0 0.85 30	0.11 0.87 30	-0.31 0.88 1	0.19 0.90 15	0.02 0.83 40	111.4
MC148488 P-3 ACE LAD 2-150B	1998/2000	19 0.28 85	4.4 0.84 95	17.0 0.75 65	56.0 0.71 9	0.0 0.01 70	13.0 0.57 9	22.0 0.63 25	26.0 0.83 2	0.17 0.85 30	-0.03 0.86 1	0.07 0.88 20	0.19 0.79 1	132.0
MC166838 RPJ EVERREADY 403D	1998/2000	52 0.62 50	2.0 0.92 65	31.0 0.86 15	59.0 0.85 7	0.0 0.46 70	2.9 0.77 75	18.0 0.80 40	15.0 0.82 25	0.28 0.84 8	-0.05 0.85 1	0.27 0.90 7	-0.09 0.83 100	132.3
MC174158 SHARPHILLS HURRICANE154D	1998/2000	41 0.40 65	4.3 0.91 95	16.0 0.84 75	20.0 0.82 90	0.1 0.50 55	10.9 0.67 20	19.0 0.73 35	10.0 0.81 45	0.00 0.83 65	-0.13 0.84 1	-0.10 0.89 40	0.08 0.81 4	93.1
MC187431 SILVERBIRCH STRIKE 76E	1998/2000	31 0.36 75	2.3 0.85 70	24.0 0.75 35	43.0 0.68 35	0.8 0.28 5	27.8 0.49 1	40.0 0.58 1	2.0 0.77 80	0.02 0.79 65	0.78 0.81 1	-0.59 0.85 90	0.00 0.77 60	105.6
MC167321 VIRTU FIVE STAR 9D	1998/2000	12 0.27 95	7.7 0.81 100	45.0 0.71 1	58.0 0.72 8	-0.1 0.04 80	-7.0 0.51 100	16.0 0.58 55	25.0 0.83 3	0.39 0.85 2	-0.73 0.86 1	0.53 0.88 1	-0.09 0.83 100	101.6

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC187036 GGD MR EXCEL 46E	1999/2001	13	4.3	17.0	28.0	0.7	-4.3	4.0	8.0	0.02	1.77	-1.09	-0.06	66.7
		0.24 90	0.80 95	0.69 70	0.70 75	0.33 8	0.44 100	0.52 100	0.79 55	0.81 65	0.82 100	0.85 100	0.79 95	
FMC7008 HARNOIS	1999/2001	3	6.5	13.0	38.0	0.1	0.7	7.0	22.0	0.46	-0.04	0.63	-0.02	117.1
		0.23 100	0.78 100	0.64 80	0.61 45	0.16 55	0.20 90	0.35 95	0.87 5	0.88 1	0.89 1	0.89 1	0.86 75	
MC166179 HTA MAGNUM PLD 469D	1999/2001	52	2.8	15.0	2.0	0.2	6.9	14.0	-1.0	-0.60	0.49	-1.22	0.08	64.7
		0.23 50	0.83 80	0.73 75	0.60 100	0.16 45	0.47 45	0.56 65	0.89 90	0.90 100	0.91 1	0.90 100	0.88 4	
MC220104 KC STOLICHNAYA H016 ET	1999/2001	53	1.6	35.0	38.0	-1.0	-11.3	6.0	12.0	-0.26	0.19	-0.68	-0.14	88.5
		0.55 50	0.93 55	0.88 4	0.84 50	0.58 100	0.73 100	0.78 95	0.80 35	0.82 100	0.83 1	0.88 95	0.80 100	
MC223002 KEYS POLLED CONVERSE 56H	1999/2001	55	3.3	35.0	66.0	0.1	5.1	23.0	39.0	0.89	-0.03	0.76	-0.07	134.8
		0.26 45	0.86 85	0.76 5	0.67 3	0.33 55	0.56 60	0.63 20	0.81 1	0.82 1	0.83 1	0.86 1	0.80 100	
MC141012 MSW VOGUE'S MONTEGO 22B	1999/2001	3	2.2	21.0	47.0	0.6	-1.6	9.0	10.0	0.31	-0.56	0.65	0.12	135.8
		0.22 100	0.83 70	0.69 50	0.58 25	0.19 15	0.51 95	0.57 90	0.81 45	0.82 2	0.83 1	0.84 1	0.80 1	
MC200277 SPARROWS ALLIANCE 513G	1999/2001	84	2.1	22.0	29.0	0.3	-6.2	5.0	-3.0	0.19	0.39	-0.21	-0.05	86.9
		0.63 15	0.93 65	0.89 45	0.87 70	0.24 35	0.75 100	0.80 100	0.84 95	0.85 30	0.86 1	0.90 50	0.83 95	
MC206781 SPARROWS STINGER 233G	1999/2001	89	3.1	3.0	10.0	0.1	7.9	10.0	3.0	-0.15	1.18	-1.00	0.14	86.5
		0.33 15	0.82 80	0.71 100	0.67 100	0.16 55	0.31 35	0.44 85	0.83 80	0.84 100	0.85 100	0.86 100	0.83 1	
MC189277 BECK'S REVIVAL 5F	2000/2002	92	1.2	24.0	44.0	0.0	7.0	19.0	19.0	-0.10	0.83	-0.90	0.06	103.4
		0.37 8	0.85 50	0.73 35	0.65 30	0.09 70	0.45 45	0.54 35	0.84 15	0.86 90	0.87 1	0.88 100	0.79 10	
MC200319 CHARDEL HURDLE 759G	2000/2002	87	-0.5	16.0	21.0	0.0	-4.9	3.0	9.0	0.53	0.18	0.24	0.19	145.9
		0.26 15	0.70 20	0.58 70	0.50 90	0.01 70	0.28 100	0.38 100	0.84 50	0.85 1	0.86 1	0.85 8	0.80 1	
MC228742 CS PLD JUNCTION 4J	2000/2002	54	2.1	35.0	72.0	0.6	16.3	34.0	36.0	0.28	0.63	-0.50	0.08	135.5
		0.48 50	0.87 65	0.78 5	0.74 2	0.31 15	0.49 3	0.59 1	0.75 1	0.77 8	0.78 1	0.84 85	0.74 4	
FMC6736 CURTIS WALLACE 141H	2000/2002	5	6.7	34.0	67.0	0.6	-1.8	15.0	16.0	0.37	-0.39	0.51	0.04	120.8
		0.21 100	0.77 100	0.66 6	0.63 2	0.34 15	0.26 95	0.39 60	0.77 20	0.79 2	0.81 1	0.82 2	0.77 25	
MC216367 ERIXON'S 1ST CHOICE 209H	2000/2002	39	1.9	13.0	40.0	0.0	13.8	20.0	16.0	0.19	-0.21	0.33	0.08	125.3
		0.32 65	0.81 65	0.72 80	0.56 40	0.24 70	0.40 7	0.51 30	0.76 20	0.78 30	0.79 1	0.83 5	0.75 4	

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC229755	2000/2002	29	6.7	41.0	71.0	0.4	-8.1	12.0	26.0	0.20	0.16	-0.11	0.00	118.4
HTA BRAVEHEART PLD 932J		0.30	0.83	0.74	0.70	0.30	0.45	0.55	0.76	0.77	0.79	0.84	0.75	
		75	100	1	2	25	100	75	2	8	1	40	60	
MC201909	2000/2002	54	1.4	34.0	75.0	0.9	10.7	28.0	29.0	0.00	0.58	-0.57	0.03	132.6
HTA WHITE SAND 762G		0.39	0.78	0.67	0.59	0.30	0.40	0.49	0.86	0.87	0.88	0.89	0.86	
		50	55	6	1	4	20	5	1	65	1	90	30	
MC139364	2000/2002	52	5.9	54.0	99.0	NA	4.9	32.0	32.0	0.63	0.57	0.08	0.04	162.1
JS SANDMAN 224B		0.22	0.83	0.72	0.70		0.46	0.55	0.79	0.81	0.82	0.86	0.79	
		50	100	1	1		60	2	1	1	1	20	25	
MC183791	2000/2002	70	-1.9	27.0	58.0	0.8	5.6	19.0	19.0	-0.02	0.59	-0.62	0.06	134.5
MERIT 5133E		0.50	0.89	0.82	0.80	0.06	0.63	0.69	0.79	0.80	0.82	0.87	0.78	
		30	8	25	8	5	55	35	15	90	1	95	10	
MC215550	2000/2002	39	1.8	18.0	20.0	0.0	3.6	12.0	7.0	0.38	0.12	0.29	0.01	116.6
VAL-END LANDMARK 39H		0.25	0.76	0.59	0.53	0.03	0.24	0.36	0.85	0.86	0.87	0.86	0.84	
		65	60	65	90	70	70	75	60	2	1	6	50	
MC234441	2001/2003	39	2.8	25.0	56.0	NA	0.5	13.0	23.0	-0.36	1.27	-1.55	0.20	96.3
CHAR-LEW'S JAMIN 41J		0.22	0.79	0.69	0.63		0.34	0.46	0.78	0.80	0.82	0.84	0.78	
		65	80	30	10		90	70	5	100	100	100	1	
MC182943	2001/2003	35	3.5	20.0	38.0	-0.7	6.0	16.0	0.0	0.52	-0.91	1.22	0.01	132.2
CHARNICH EL PRIMO 26E		0.22	0.84	0.72	0.69	0.40	0.38	0.49	0.80	0.82	0.83	0.85	0.80	
		70	85	55	50	100	50	55	85	1	1	1	50	
MC227414	2001/2003	58	3.2	35.0	86.0	0.5	13.3	31.0	31.0	0.47	1.26	-0.41	-0.05	123.5
CSS SHOW BOAT 5J		0.37	0.83	0.66	0.61	0.04	0.24	0.38	0.82	0.84	0.85	0.86	0.82	
		45	85	5	1	20	8	2	1	1	100	75	95	
MC213815	2001/2003	43	5.2	18.0	43.0	0.9	-1.4	8.0	11.0	0.23	-0.56	0.71	-0.03	119.7
CSS SIR STOCKMAN JR 24H		0.26	0.87	0.79	0.76	0.28	0.47	0.58	0.81	0.83	0.84	0.87	0.81	
		60	100	65	35	4	95	95	45	8	1	1	85	
MC178530	2001/2003	49	3.7	16.0	23.0	0.6	-1.5	6.0	-4.0	-0.16	0.94	-0.66	-0.17	70.9
DBL-J GENERAL PATTON 8E		0.30	0.85	0.75	0.72	0.22	0.49	0.58	0.82	0.84	0.85	0.87	0.82	
		55	90	75	85	15	95	95	95	100	1	95	100	
MC203461	2001/2003	87	-0.2	10.0	22.0	0.1	-0.3	5.0	-14.0	0.12	0.41	0.14	-0.03	109.9
NOR GRIZZLY 5G		0.40	0.84	0.73	0.64	0.01	0.42	0.52	0.81	0.83	0.84	0.87	0.81	
		15	25	90	85	55	90	100	100	30	1	15	85	
MC244950	2001/2003	71	1.2	7.0	34.0	0.4	4.1	8.0	3.0	0.04	0.62	-0.35	0.18	114.3
SPARROWS WISDOM 335K		0.49	0.86	0.77	0.75	0.47	0.47	0.57	0.85	0.87	0.88	0.91	0.86	
		30	50	95	55	25	70	95	75	65	1	70	1	

## Conception to Consumer Test and Benchmark Bull Expected Progeny Differences (EPDs)

Reg #	C-C Year	CVG	Birth	Wng	Ylg	SC	Milk	Tot	Carc	REA	Fat	Lean	Marb	TSV
		Ease EPD ACC	WT EPD ACC	WT EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	WT EPD ACC	EPD ACC	EPD ACC	EPD ACC	EPD ACC	
MC257527 EXL TRADE SECRET 154L	2003/2005	11 0.27 95	9.1 0.85 100	35.0 0.75 5	53.0 0.70 15	0.4 0.12 25	10.1 0.23 25	28.0 0.40 5	20.0 0.69 8	0.31 0.72 2	0.08 0.73 1	0.13 0.76 15	-0.10 0.21 100	93.0
MC278536 LT RIO BLANCO 1234P	2003/2005	49 0.36 55	3.0 0.91 80	46.0 0.84 1	98.0 0.71 1	0.9 0.16 4	5.7 0.31 55	28.0 0.49 4	34.0 0.69 1	0.37 0.71 2	2.17 0.73 100	-1.16 0.74 100	0.24 0.14 1	157.1
FMC52 BELPHEGOR	BM/1968/1970	22 0.32 85	1.3 0.91 50	-5.0 0.89 100	2.0 0.86 100	0.5 0.02 20	7.4 0.86 40	5.0 0.87 100	-8.0 0.95 100	0.20 0.96 8	-1.68 0.96 1	1.32 0.93 1	0.22 0.95 1	138.1
MC1285 SIR CHARROUSE BACCHUS	BM/1970/1972	96 0.07 5	-4.1 0.81 2	-2.0 0.73 100	-1.0 0.70 100	-0.1 0.02 80	3.3 0.50 75	2.0 0.58 100	-15.0 0.92 100	-0.43 0.93 100	0.67 0.94 1	-0.91 0.83 100	0.03 0.92 30	72.1
FMC1238 LOCHLO ABRAHAM INTERPOL	BM/1974/1976	81 0.20 20	1.9 0.80 65	28.0 0.69 20	38.0 0.66 45	-0.8 0.14 100	5.9 0.60 55	20.0 0.63 30	12.0 0.91 35	0.21 0.92 8	0.34 0.93 1	-0.29 0.87 60	0.21 0.91 1	119.3
MC30035 SIR HSF EXPECTATION 43M	BM/1983/1985	48 0.08 55	2.7 0.84 75	28.0 0.80 20	62.0 0.81 5	0.5 0.04 20	8.4 0.48 35	22.0 0.59 20	18.0 0.96 15	0.07 0.97 65	0.35 0.97 1	-0.30 0.96 65	0.06 0.96 10	112.0
MC84001 GID MORTAL POWER 1W	BM/1989/1991	1 0.20 100	7.7 0.85 100	37.0 0.79 3	68.0 0.76 2	NA	8.1 0.59 35	26.0 0.66 7	32.0 0.91 1	-0.35 0.92 100	0.47 0.92 1	-1.02 0.93 100	0.04 0.91 25	90.7
MC104376 JN KRUG MACHO 6X	BM/1990/1992	59 0.02 45	2.4 0.80 70	16.0 0.71 70	50.0 0.72 20	0.0 0.08 70	0.3 0.26 90	8.0 0.41 90	29.0 0.95 1	0.07 0.95 65	-0.93 0.96 1	0.49 0.88 2	-0.03 0.95 85	120.7
MC128647 CHARDEL DESTINY 21A	BM/1993/1995	32 0.27 75	3.5 0.84 85	18.0 0.75 65	29.0 0.74 70	0.3 0.05 35	7.8 0.57 40	17.0 0.63 50	10.0 0.90 50	0.28 0.92 8	-0.10 0.92 1	0.12 0.93 15	0.08 0.90 4	95.5
MC214912 HTA SPIRIT PLD 826H	BM/2001/2003	44 0.38 60	3.2 0.83 85	16.0 0.73 75	36.0 0.59 55	0.6 0.19 15	11.2 0.29 15	19.0 0.44 35	-2.0 0.88 95	0.45 0.89 1	-0.74 0.90 1	1.14 0.90 1	-0.05 0.83 95	125.2

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