2023 OJSA Memorial Day Classic
# Cattlemen's Quiz
SENIOR DIVISION

You have 90 minutes to complete this quiz. In the event of a tie within the Top 10 placings, questions 46 through 50 will be used as tiebreaker questions. Further ties will be broken by order of finish.

For each question, choose the best answer. Fill in the corresponding answer response sheet by clearly writing the letter answer.

1. Aged beef is common at high-end steakhouses and meat suppliers, where it commands a significant premium. What is aged beef?
   A. Beef that is cut from mature cows, resulting in a rich and beefy flavor – provided it passes elevated quality inspections
   B. Beef that spends a lengthy amount of time cooking – often up to 18 hours – under low, indirect heat to ensure that the meat is moist and savory
   C. Beef that comes from fed cattle that are harvested at older ages, sometimes up to 60 months old, which increases the amount of marbling
   D. Beef that has been stored in a controlled environment at refrigerated temperatures for up to 5 weeks, thereby enhancing tenderness and flavor

2. Your veterinarian performs Breeding Soundness Exams on your group of yearling sale bulls. When examining Lot 18, she finds that he is healthy with a normal reproductive anatomy and a scrotal circumference of 38 cm. Using a microscope, she concludes that 50% of his sperm cells are normally shaped and 70% of the cells are moving. What are the results of his BSE?
   A. He passes.
   B. He is deferred due to inadequate scrotal circumference.
   C. He is deferred due to inadequate motility.
   D. He is deferred due to inadequate morphology.

3. Which of these hooves is most likely to receive a Claw Set score of 5? *Artwork by Amanda Raithel Art.*
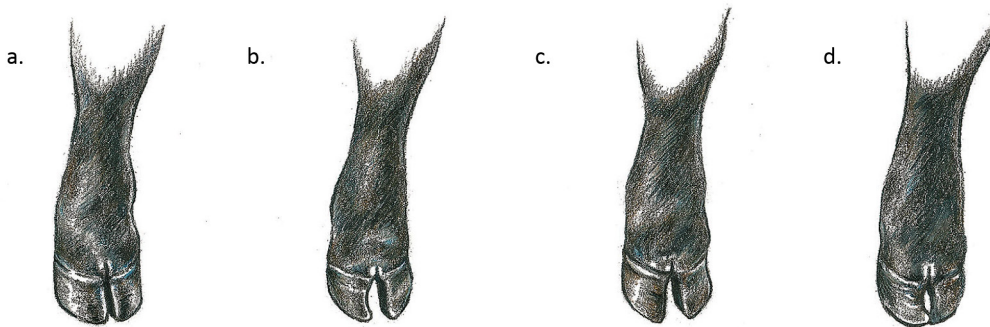
4. Which of these EPDs does not directly measure pounds of weaning weight?
   A. Average Daily Gain
   B. Weaning Weight
   C. Maternal Weaning Weight
   D. Maternal Milk

5. _____ is a condition in which one or both of a bull's testicles are one-third to one-half of the normal size.
   A. Hypoplasia
   B. Orchitis
   C. Cryptorchidism
   D. Varicocele

6. Who was the 2022 AJSA Herdsman of the Year?
   A. Clay Sundberg
   B. Whitney Olson
   C. Jordan Stephens
   D. Luke Harker

7. What hormone is illegal for use in bovine reproduction in the United States, in spite of the fact that it has been studied and proven as a highly effective heat synchronization treatment in Australia and South America?
   A. Aldosterone
   B. Estradiol
   C. Prostacyclin
   D. Zeranol

8. Gonadotropin Releasing Hormone (GnRH) is commonly used in heat synchronization protocols. Which of the following is not a GnRH product?
   A. GONABreed®
   B. Folltropin®
   C. OvaCyst®
   D. Fertagyl®

9. Which of the following would improve the USDA Yield Grade of a carcass the most?
   A. A marbling score of SLAB20
   B. A ribeye area of 14.5 square inches
   C. A KPH fat grade of 1.5%
   D. An external fat measurement of 0.10 inches

10. How many base USDA Quality Grades are there, and how many can be awarded to A-maturity carcasses?
   A. 5, 5
   B. 6, 4
   C. 6, 6
   D. 8, 4

11. You sell all of your calves at weaning. Ninety-five percent (95%) of your cows wean a calf at an average of 580 lbs., and you sell the entire group for $1.30 per pound. What is your average income per cow?
   A. $716.30
   B. $678.60
   C. $754.00
   D. Not enough information is available.

12. Which of the following is not an Economically Relevant Trait (ERT)?
   A. Direct Calving Ease
   B. Heifer Pregnancy
   C. Birth Weight
   D. Maternal Calving Ease

13. The first successful embryo transfer was surgically performed on:
   A. rabbits in the 1890s
   B. mice in the 1930s
   C. sheep in the 1940s
   D. pigs in the 1950s

14. What is Draxxin® (tulathromycin)?
   A. An intranasal vaccine commonly used to prevent bovine respiratory disease
   B. An injectable antibiotic commonly used to treat bovine respiratory disease
   C. An injectable steroid that acts as an anti-inflammatory agent
   D. An intranasal vaccine commonly used to prevent bovine respiratory disease

15. Within the beef industry, what is the acronym ERT most associated with?
    A. An embryo transfer recipient female
    B. The estimated total retail product of a finished beef animal
    C. An emergency veterinary treatment procedure for dehydrated calves
    D. A trait that is directly associated with income or expenses for a cattle operation

16. Pulmonary arterial pressure testing is highly important to cattle producers in:
    A. feedlot settings
    B. hot climates
    C. wet environments
    D. high altitudes

17. What are the basic factors in USDA Feeder Cattle grading?
    A. Breed composition and maturity
    B. Color and horned/polled status
    C. Frame size and thickness
    D. Age and weight

18. When sale barns have bred cow auctions, it is common for a cow to be marked in chalk with the letters SS – meaning "short solid." What does this mean?
    A. Her teeth are short – meaning they are worn – but solidly attached to the mandible.
    B. Her hooves are generally uniform, with appropriate toe length and no discernible cracks or abscesses.
    C. She is small framed and stout bodied.
    D. She is short bred, typically less than 90 days, and functional in her udder design when lactating.

19. In the IVF process, how long are fertilized oocytes developed in an incubator prior to being frozen or transferred into recipients?
    A. 20-24 hours
    B. 3 days
    C. 7 days
    D. 14 days

20. Aside from the obvious technological advancements, what makes it possible to sort/sex semen?
    A. X-bearing female chromosomes contain more DNA than Y-bearing male chromosomes.
    B. X-bearing female chromosomes are more viscous than Y-bearing male chromosomes.
    C. X-bearing female chromosomes are less dense than Y-bearing male chromosomes.
    D. X-bearing female chromosomes illuminate differently than Y-bearing male chromosomes under a UV light.

21. With increased feeder calf values, you decide to sell all of your calves at weaning. 95% of your cows wean a calf with an average actual weaning weight of 570 pounds, and you sell the entire group for $1.80 per pound. What is your average income per cow?
    A. $923.40
    B. $974.70
    C. $1,026.00
    Not enough information is available.

22. You have an eight-year-old SimAngus™ cow that is considered a Population Risk for CA. If you want to clear the members of this cow family as potential genetic defect carriers, what is the first thing you should do?
    A. Run a full genomic test (GGP-LD or higher) on the eight-year-old cow.
    B. Test the eight-year-old cow and all her daughters remaining in your herd for CA.
    C. Only use AI bulls and natural service sires that are documented as CA-free.
    D. Test the eight-year-old cow for CA.
    E. No extra measures are needed. If she were a CA carrier, it would have presented in one of her descendants by now.

23. Which of the following genomic tests is required for all AI sires and donor dams?
    A. GGP-uHD
    B. GGP-HD
    C. GGP-LD
    D. GGP-uLD

24. Which wholesale cut of beef is the most valuable? *Images taken from beefitswhatsfordinner.com. Not to scale.*

a.

c.

b.

d.

For questions 25 through 28, refer to the chart on the last page of your quiz, page 10.

25. Assume that you find similar data across several contemporary groups. Which bull would you expect to have the highest WW EPD?
    A. Sire A
    B. Sire B
    C. Sire C
    D. Sire D
    E. Sire E

26. What is the WW ratio for Heifer G28?
    A. 86
    B. 93
    C. 95
    D. 106
    E. 108

27. Assuming that most of these heifer calves are the product of artificial insemination, is it also possible that some are flushmates?
    A. Yes
    B. No

28. The breeder of Contemporary Group 2 believes that the calves out of Sire B did not perform well enough, and is considering not reporting those weaning weights. If he does this, how would the WW ratios of his highest performing heifers be impacted?
    A. Their WW ratios would decrease.
    B. Their WW ratios would increase.
    C. Their WW ratios would not change.
    D. Their WW ratios could no longer be calculated.

29. You put in multiple embryos on the same day, but your record keeping was average at best. While you know which matings were put in, you will need to submit DNA for parentage verification on all the calves to determine their sires and dams. When sending the samples, what information should you report for each individual calf in order to get the quickest test results?
    A. Send only two options – potential sire and dam – for each calf.
    B. Send multiple options – all potential sires and dams – for each calf.
    C. Don't send any parentage options. The lab can determine the sire and dam through DNA.
    D. Rather than a parentage test, run a genomic test first. It will narrow down parentage and give you GE-EPDs.

30. Which bull is ASA #2 and has more than 33,000 progeny in Herdbook, ranking him third all-time?
    A. Signal
    B. Abricot
    C. Florian
    D. Bismark

31. What is the breed average BW EPD for Purebred Simmental cattle.
    A. 1.5
    B. 1.2
    C. 0.0
    D. 0.30

32. Aside from actual birth weight, what is the primary factor in determining adjusted birth weight?
    A. Age of dam
    B. Breed of calf
    C. Length of gestation
    D. Sex of calf

33. Cow X has a YW EPD that ranks in the 15th Percentile. Cow Y has a YW EPD that ranks in the 70th Percentile. On average, which female would you expect to produce offspring that more consistently outperform their contemporaries at 365 days of age?
    A. Cow X
    B. Cow Y
    C. There will be little measurable difference.
    D. Growth EPDs should be applied only to sires.

34. You breed your best hetero black cow to a hetero black bull using conventional semen. What are the odds that she'll give you a red heifer calf?
    A. 12.5%
    B. 25%
    C. 37.5%
    D. 50%

35. You have a potential buyer that is looking to replace his 5-year-old commercial herd sire. Recently, he expressed to you that he'd like to decrease the average birth weights of his calves. You have two bulls in his price range that you can recommend to him, both of which are Purebred Simmental. 107J has a BW EPD of 0.4, and 120J has a BW EPD of -1.9. Given that the PB SM breed average BW EPD is 1.7, which of the following statements is definitely true?
    A. Both of these bulls should decrease the average birth weights in his herd.
    B. Of the two options, 120J should produce calves with lighter average birth weights.
    C. Of the two options, 107J should offer the lesser sacrifice in average weaning weights.
    D. Of the two options, 120J should produce a higher percentage of unassisted births.
    E. All of the above.

36. While waiting for DNA test results, you bred your best replacement heifer to a bull that is heterozygous black and heterozygous polled. After she's bred, you receive her test results – and learn that she is also heterozygous for both traits. What is the probability that she will have a calf that is both red and horned?
    A. 25%
    B. 12.5%
    C. 6.25%
    D. 0%

37. Cow 920 and Cow 715 are both Percentage Simmentals. Cow 920 has a WW EPD of 82.7, and Cow 715 has a WW EPD of 73.4. Based on this information, which of the following statements is definitely true?
    A. You should expect Cow 920 to produce offspring with heavier adjusted weaning weights, on average.
    B. You should expect Cow 920 to produce offspring with heavier actual birth weights, on average.
    C. You should expect Cow 920 to produce offspring with larger frame scores, on average.
    D. You should expect Cow 920 to produce offspring that are more feed efficient.
    E. All of the above are true.

38. A young sire's first daughters will be born in 2022. In the year these daughters are directly able to contribute to their sire's Stayability records, what will be the tattoo letter of their calves?
    A. N
    B. O
    C. P
    D. R
    E. S

39. If you breed a group of mature cows and a group of heifers to the same bull, which of the following should you expect to be true?
    A. The mature cows will require less assistance at calving.
    B. The heifers will have shorter gestations, on average.
    C. The calves out of the mature cows are more likely to be bulls.
    D. The calves out of the mature cows will be heavier at birth, on average.

40. Tag 189 has a great granddam that is a Purebred Angus cow. Neither this Angus cow nor any of her descendants have been tested for genetic defects, but the cow family has never produced a calf with signs of a defect. Assuming she is registered with ASA, what is the status of Tag 189 in TraitTrac?
    A. Assumed Free
    B. Pedigree Free
    C. Population Risk
    D. Foundation Risk
    E. She has no defect status in TraitTrac. Her percentage of Angus blood is below the minimum threshold for monitoring.

41. In the early 2010s, a long-term study by Oklahoma State University showed that selection for bulls with _____ resulted in daughters that produced calves with heavier weaning weights at the expense of the cows' body condition scores and reproductive efficiency.
    A. high MWW EPDs
    B. high Milk EPDs
    C. high WW EPDs
    D. high REA EPDs

42. With more than 18,000 progeny in Herdbook, CNS Dream On L186 is the most-used modern Simmental bull. When was he born?
    A. 1997
    B. 1999
    C. 2001
    D. 2003
    E. Not enough information is available.

43. A heifer is registered as Purebred Simbrah, with two Purebred Simbrah parents. Through DNA, it is discovered that she does not qualify to her sire. Instead, she was sired by a Purebred Simmental bull. What is her status in Herdbook?
    A. Her pedigree is corrected, and she remains registered as a Purebred Simbrah.
    B. Her pedigree is corrected, and she is registered as 3/4 SM 1/4 BR.
    C. Her registration is suspended until a second parentage test is completed and confirmed.
    D. Her registration is suspended until parentage tests are completed on her sire and dam.

44. Due to a record keeping error, you are unsure of a calf's AI sire. However, you can confidently narrow it to four possibilities. You submit DNA on the calf and its dam. Combined with the sire information already on file, you may be able to identify the calf's sire. Based on these simplified lab results, which bull is the sire?

		Locus 1	Locus 2	Locus 3	Locus 4	Locus 5
Calf:		**AA**	**Bb**	**cc**	**Dd**	**EE**
Dam:		*Aa*	*BB*	*Cc*	*dd*	*Ee*
a.	Sire A:	AA	bb	Cc	DD	EE
b.	Sire B:	Aa	bb	Cc	Dd	ee
c.	Sire C:	Aa	Bb	CC	dd	EE
d.	Sire D:	Aa	BB	cc	DD	Ee

e. Multiple sires not excluded. More information is needed.

45. Which organization annually updates EPD adjustment factors, allowing producers to compare the EPDs of animals across breeds? And which breed are these adjustment factors based on?
   A. US Meat Animal Research Center, Angus
   B. US Meat Animal Research Center, Simmental
   C. Beef Improvement Federation, Angus
   D. Beef Improvement Federation, Simmental

TIEBREAKER QUESTIONS
Questions 46 through 50 are tiebreaker questions. If you achieve a possible Top 10 score that is tied with one or more other contestants answers to these questions will determine final placings.

46. You are using your heterozygous black herd sire on a group of 32 females. Four (4) of these females are homozygous black, 16 are heterozygous black, and 12 are homozygous red. Assuming 100% conception and all single births, how many black calves should you expect to have?
   A. 26
   B. 16
   C. 25
   D. 22

47. Each year, a heifer is donated to the American Simmental-Simbrah Foundation and auctioned off at a major sale, with proceeds benefiting ASA events and programs including AJSA. The 2023 Foundation Female sold at the Bricktown National Sale at Cattlemen's Congress for a record $56,750. Who donated this female?
   A. Clear Water Simmentals
   B. Wayward Hill Farm
   C. Buck Creek Ranch
   D. Trennepohl Farms

48. When reporting calving ease, it is possible to report multiple codes. What would a calving ease score of 25 indicate?
   A. Easy Pull – Abnormal presentation
   B. Unassisted – Premature
   C. Hard Pull – Dead on arrival
   D. Caesarian – Genetic defect present

49. Which of the following genetic traits have an antagonistic correlation?
   A. Birth Weight and Calving Ease
   B. Maternal Calving Ease and Ribeye Area
   C. Milk Production and Maintenance Energy
   D. Weaning Weight and Yearling Weight

50. The average adjusted weaning weight for a contemporary group of 30 heifer calves is 605 pounds. Heifer 938 has an adjusted weaning weight of 720 pounds. What is her weaning weight ratio?
   A. 115
   B. 119
   C. 125
   D. 129

BCLR ARTILLERY E21-3

ASA #: 3322964
Registered

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: E213
Left Ear

Frozen Embryo Bull   PB SM   PQB GE   **TraitTrac**
(Check available results)

Owner: 010506 - TOM BROTHERS
Breeder: 325278 - BICHLER SIMMENTALS/LAZY C DIAMOND RCH

Birth Date: 2017-03-22
Original Issue: 2018-06-11

BOLT - 2020-06-16

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	11.8	1.3	74.9	122.7	0.30	6.2	21.2	58.7	21.8	14.2	44.6	-0.48	0.00	-0.124	0.98	-0.31	140.2	74.3
PC	±3.74	±1.05	±6.03	±9.77	±0.011	±5.21	±6.19	±6.17	±4.9	±2.6	±9.07	±0.12	±0.14	±0.024	±0.211	±0.2		
ACC	0.52	0.65	0.63	0.62	0.62	0.34	0.48	0.49	0.31	0.48	0.53	0.40	0.46	0.40	0.51	0.20		
%	30	40	25	10	2	35	55	30	2	30	3	45	60	20	20	65	15	25

- Pedigree +

			Color	HPS
	REMINGTON ON TARGET 2S	CANSM - 658801	2417812		P
REMINGTON LOCK N LOAD54U		CANSM - 709087	2503661	BH	PP
	BAR15 MISS KNIGHT78E-51G	CANSM - 376669	2569986		P
BCLR ARTILLERY E21-3			3322964	BB	PP
	HSF HIGH ROLLER 12T	CANSM - 785107	2408113		PP
WS MOTHER LODE W21			2499586	BH	PP
	WS MISS BEEFWAY T7		2395612	B	PP

CDI FLINT 221F

ASA #: 3429444
Registered

Red
Polled (Homozygous Polled)

Tattoo: 221F
Left Ear

Single Birth Bull   PB SM   PQS GE   **TraitTrac**
(Check available results)

Owner: 321263 - BERG RED-TAIL RANCH
Breeder: 202710 - C DIAMOND INC

Birth Date: 2018-03-10
Original Issue: 2019-06-17

BOLT - 2020-06-16

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	18.6	-3.0	73.8	105.8	0.20	8.8	22.3	59.2	12.4	13.2	36.4	-0.44	0.23	-0.088	1.04	-0.28	147.3	84.5
PC	±4.45	±1.35	±8.15	±12.85	±0.014	±6	±7.02	±7.02	±5.25	±3.15	±10.23	±0.13	±0.156	±0.026	±0.241	±0.237		
ACC	0.43	0.55	0.50	0.50	0.50	0.24	0.41	0.42	0.26	0.37	0.47	0.36	0.40	0.36	0.44	0.05		
%	1	1	25	40	60	10	45	30	99	15	20	65	10	90	10	80	5	2

- Pedigree +

		Color	HPS
	HOOK`S XPECTATION 36X	2559346	R	PP
CDI PERSPECTIVE 238A		2732012	R	PP
	CDI MS TRUMP 101Y	2635139	R	PP
CDI FLINT 221F		3429444	R	PP
	TJ MAIN EVENT 503B	2891336	BB	PP
CDI MISS MAIN EVENT 166D		3152654	B	P
	CDI MS HIGH ROLLER 163A	2732253	BH	P

CLRS DIVIDEND 405D

ASA #: 3097854
Registered

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: CLRS 405D
Left Ear

Single Birth Bull   PB SM   PQB GE   **TraitTrac**
(Check available results)

Owner: 330184 - APEX CATTLE-CLEAR SPRINGS CATTLE
Breeder: 287534 - CLEAR SPRINGS CATTLE CO

Birth Date: 2016-01-31
Original Issue: 2016-08-25

BOLT - 2020-06-16

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	10.9	0.4	77.9	120.0	0.26	2.9	17.3	56.2	18.2	14.1	36.8	-0.26	0.13	-0.067	0.66	-0.53	139.0	78.3
PC	±2.18	±0.36	±2.45	±4.37	±0.005	±4.35	±5.47	±5.57	±4.9	±2.2	±5.98	±0.1	±0.096	±0.018	±0.146	±0.2		
ACC	0.72	0.88	0.85	0.83	0.83	0.45	0.54	0.54	0.31	0.56	0.69	0.52	0.63	0.56	0.66	0.20		
%	40	20	15	10	15	90	90	50	40	10	15	99	25	99	90	1	15	10

- Pedigree +

		Color	HPS
	HOOK`S YELLOWSTONE 97Y	2612546	BB	PP
CLRS AFTER SHOCK 604 A		2735656	BB	PP
	HOOKS SARITA 4S	2334127	BB	PP
CLRS DIVIDEND 405D		3097854	BB	PP
	GW PREMIUM BEEF 021TS	2370545	BB	PP
CLRS BONNIA 405 B		2853921	BH	PP
	CLRS ZINNIA 200 Z	2642011	R	PP

DMCC/WOOD FULLY LOADED 39D

ASA #: 3131823
Registered

Black (Heterozygous Black)
Polled (Homozygous Polled)

Tattoo: DMCC 39D
Left Ear

Frozen Embryo Bull

PB SM

PQB GE

TraitTrac
(Check available results)

Owner: 318622 - HIGH PRAIRIE GENETICS
Breeder: 040166 - MUELLER, MARK M

Birth Date: 2016-03-11
Original Issue: 2016-09-12

BOLT - 2020-06-16

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	9.9	0.8	57.6	88.0	0.19	5.5	23.8	52.6	18.7	10.5	47.0	-0.55	0.07	-0.134	1.14	-0.25	128.5	66.1
PC	±3.9	±1.14	±7.66	±12.34	±0.013	±5.45	±6.31	±6.41	±4.83	±3.05	±9.84	±0.12	±0.143	±0.024	±0.219	±0.203		
ACC	0.50	0.62	0.53	0.52	0.52	0.31	0.47	0.47	0.32	0.39	0.49	0.39	0.45	0.39	0.49	0.19		
%	55	30	95	85	70	50	30	75	30	55	2	10	35	10	4	90	40	70

- Pedigree +

			Color	HPS
	REMINGTON ON TARGET 2S	CANSM - 658801	2417812		P
REMINGTON LOCK N LOAD54U		CANSM - 709087	2503661	BH	PP
	BAR15 MISS KNIGHT78E-51G	CANSM - 376669	2569986		P
DMCC/WOOD FULLY LOADED 39D			3131823	BH	PP
	3C MACHO M450 BZ	CANSM - 632915	2184077	BB	PH
AUBREYS BLACK BLAZE III			2432053	BB	P
	BLAZE IV 1P		2232291		P

LLSF COUNTIN CASH E63

ASA #: 3323601
Registered

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: E63
Left Ear

Frozen Embryo Bull

PB SM

PQB GE

TraitTrac
(Check available results)

Owner: 319734 - TROY STANLEY CATTLE CO
Breeder: 286630 - LEE SIMMENTAL FARMS & KYLA WALTER

Birth Date: 2017-03-18
Original Issue: 2017-11-13

BOLT - 2020-06-16

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	8.1	2.5	66.5	97.9	0.20	4.0	21.7	54.8	14.9	11.1	26.0	-0.42	0.20	-0.089	0.84		124.7	71.3
PC	±4.6	±1.38	±8.48	±13.62	±0.015	±6.16	±7.14	±7.26	±5.25	±3.45	±11	±0.13	±0.172	±0.026	±0.249	±		
ACC	0.41	0.54	0.48	0.47	0.47	0.22	0.40	0.40	0.26	0.31	0.43	0.34	0.34	0.35	0.42			
%	80	75	60	60	60	75	50	60	85	45	65	75	15	90	50		50	40

- Pedigree +

			Color	HPS
	LLSF PAYS TO BELIEVE ZU194		2659897	BB	PH
GLS/JRB CASH FLOW 163C			3044489	BB	PH
	HS LOOKIN SWEET X161S		2543746		
LLSF COUNTIN CASH E63			3323601	BB	PP
	SS ON STAR RJ13		2291418		PP
LLSF CAYENNE UP401			2435038	B	P
	LLSF PAPRIKA P401		2235640		P

For questions 25 through 28, refer to the chart below.

Contemporary Group 1					
Sire A		**Sire B**		**Sire C**	
Calf ID	*ADJ WW*	*Calf ID*	*ADJ WW*	*Calf ID*	*ADJ WW*
Heifer G12	596	Heifer G24	591	Heifer G10	609
Heifer G19	623	Heifer G26	645	Heifer G19	626
Heifer G27	670	Heifer G33	537	Heifer G28	572
Heifer G39	550	Heifer G40	557	Heifer G48	623
Heifer G44	601			Heifer G50	657
				Heifer G52	603
5 Heifers average 608 lbs.		*4 Heifers average 582.5 lbs.*		*6 Heifers average 615 lbs.*	
Contemporary Group 1 - 15 Heifers average 604 lbs.					

Contemporary Group 2					
Sire B		**Sire C**		**Sire D**	
Calf ID	*ADJ WW*	*Calf ID*	*ADJ WW*	*Calf ID*	*ADJ WW*
Heifer G100	515	Heifer G103	558	Heifer G103	585
Heifer G107	502	Heifer G111	515	Heifer G106	566
Heifer G108	522	Heifer G114	580	Heifer G115	592
				Heifer G118	545
3 Heifers average 513 lbs.		*3 Heifers average 551 lbs.*		*4 Heifers average 572 lbs.*	
Contemporary Group 2 - 10 Heifers average 548 lbs.					