2022 TJSSA State Futurity
Genetic Evaluation Quiz
Intermediate Division

You have 60 minutes to complete this quiz. Questions 31 through 35 are tiebreaker questions. Further ties will be broken by order of finish.
For each question, choose the best answer.

1. Which of the following requires DNA testing for parental validation before it can be registered?
    a. Natural calf out of your donor cow
    b. ET calf resulting from an embryo you purchased
    c. Bull calf that you hope to later collect semen from
    d. Calf born out of a bred heifer you purchased

2. Cow C125 is a Percentage Simmental. Her WW EPD is 80.5 with an accuracy of 0.44. Cow E19 is a Simbrah. Her WW EPD is 69.4 with an accuracy of 0.27. Based on this information, which of the following statements is definitely true?
    a. C125 has a more reliable WW EPD.
    b. E19 has a more reliable WW EPD.
    c. C125 and E19 should have statistically similar possible change values for their WW EPDs.
    d. You cannot compare EPD accuracies of a Percentage Simmental to those of a Simbrah.

3. Tag 132 has a great granddam that is a Purebred Angus cow, meaning she is at least 1/8 AN. 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 132 in TraitTrac?
    a. Assumed Free
    b. Pedigree Free
    c. Foundation Risk
    d. Population Risk

4. A heifer is registered as a 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 registration is suspended until a second parentage test is completed.
    b. Her pedigree is corrected, and she remains registered as Purebred Simbrah.
    c. Her pedigree is corrected, and she is registered as 3/4 SM 1/4 BR.
    d. She is no longer allowed to be registered with ASA.

5. True or False: It is possible for an animal to have a negative Calving Ease EPD.
    a. True
    b. False

6. What does a BW ratio of 105 indicate?
    a. The average birth weight of a sire's calves was lighter than the average of the contemporary group.
    b. The average birth weight of a sire's calves was heavier than the average of the contemporary group.
    c. The animal was lighter than the average of its contemporaries at birth.
    d. The animal was heavier than the average of its contemporaries at birth.

7. Which of the following would result in the highest number of black calves?
    a. A herd of 12 homozygous black cows and 12 heterozygous black cows exposed to a heterozygous black bull
    b. A herd of 12 homozygous black cows and 12 heterozygous black cows exposed to a red bull
    c. A herd of 24 heterozygous black cows exposed to a heterozygous black bull
    d. A herd of 24 red cows exposed to a homozygous black bull

8. In order for an IGS contemporary group to be truly effective, it should contain:
    a. calves that share at least one common breed
    b. calves whose dams are a similar age
    c. calves from at least two different sires
    d. All of the above

9. You purchased a halfblood SimAngus™ heifer to show during the 2022 show season. At minimum, how many generations are you from producing a Purebred Simmental replacement heifer through this female?
    a. 1
    b. 2
    c. 3
    d. 4

For questions 10 through 14, use the graphic below.

ASA #: 3766616
Registered
AMERICAN SIMMENTAL

BAR CK RED EMPIRE 9153G

Red
Polled (Homozygous Polled)

Tattoo: 9153G
Left Ear

Frozen Embryo Bull | PB SM | PQB GE

TraitTrac
(Check available results)

Owner: 360047 - RED EMPIRE GROUP
Breeder: 221034 - BAR CK CATTLE COMPANY

Birth Date: 2019-09-26
Original Issue: 2021-03-31

BOLT - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	19.6	-3.7	69.6	102.1	0.20	11.7	29.7	64.4	23.6	16.7	12.8	-0.44	0.52	-0.049	1.05	-0.41	185.1	91.4
PC	±3.82	±1.29	±7.99	±12.59	±0.014	±5.53	±9.16	±8.11	±5.11	±3.55	±9.65	±0.12	±0.148	±0.024	±0.215	±0.228		
ACC	0.51	0.57	0.51	0.51	0.51	0.30	0.23	0.33	0.28	0.29	0.50	0.40	0.43	0.41	0.50	0.09		
%	1	1	85	80	85	1	15	40	1	4	99	40	3	99	20	15	1	10

Pedigree

			Color	HPS
	IR IMPERIAL B772	2934737	BH	PP
IR IMPERIAL D948		3210738	R	PP
	IR MS DUAL FOCUS W086	2570592	BH	PP
BAR CK RED EMPIRE 9153G		3766616	R	PP
	CDI VERDICT 220Y	2641380	R	PP
WS MISS NORTHSTAR B180		2852221	R	PP
	WS TAMAR Z179	2795409	R	PP

10. You flushed your heterozygous black donor dam to this bull. She produced 14 viable embryos, which resulted in 8 confirmed pregnancies. How many of those calves should you expect to be red?
    a. 0
    b. 2
    c. 4
    d. 6
    e. 8

11. Including indexes, how many of this bull's published traits rank in the Top 10% of the breed?
    a. 8
    b. 6
    c. 5
    d. 1

12. Compared to breed average, you should expect this bull to produce terminal offspring with carcasses that:
    a. have more fat opposite the ribeye
    b. have less fat opposite the ribeye
    c. need to be more mature at harvest
    d. need to be less mature at harvest

13. True or False: This bull likely needed to be tested for the Red Charlie gene.
    a. True
    b. False

14. This bull is mated to a PB SM cow with a BW EPD of 1.3. What is the best pedigree estimate of the resulting calf's BW EPD?
    a. -2.5
    b. -2.4
    c. -1.2
    d. -0.2

15. Which of the following statements regarding this bull's YG EPD is true?
    a. It is 100% likely that the true value of this EPD lies between -0.68 and -0.20.
    b. It is 99% likely that the true value of this EPD lies between -0.68 and -0.20.
    c. It is 95% likely that the true value of this EPD lies between -0.56 and -0.32.
    d. It is 67% likely that the true value of this EPD lies between -0.56 and -0.32.

16. Genetic correlation is expressed on scale from:
    a. 1 to 100
    b. 0 to 100
    c. 0 to 1
    d. -1 to 1

17. Simbrah Bull G713 has a MCE EPD of 4.2. Simbrah Bull F47 has a MCE EPD of 7.6. Based on this information, which of the following statements is definitely true?
    a. You should expect Bull F47 to produce a higher percentage of unassisted births when used on mature cows.
    b. You should expect Bull F47 to produce a higher percentage of unassisted births when used on heifers.
    c. You should expect a higher percentage of F47's daughters to calve without assistance as heifers.
    d. All of the above.

18. What is the name of the annual sire directory published and distributed by ASA Publications?
    a. Sire Source
    b. Sire Guide
    c. Sire Connection
    d. Sire Seeker

For questions 19 through 26, refer to the following sires. Information on these bulls can be found on the last sheet of your quiz.
Each bull may be used as an answer more than once.

A. CLRS Dividend 405D
B. ES Right Time FA110-4
C. KBHR Cimarron F151
D. LHT Top Tear 54H
E. W/C Rest Easy 752G

19. Which bull should you expect to produce offspring with the most post-weaning gain?

20. Which bull has the most balanced carcass EPDs?

21. Which bull is best suited for use in a program that sells its feeder calves by the pound to a backgrounder?

22. Which bull should you expect to produce the highest percentage of unassisted births in his first-calving daughters?

23. Which of the following statements is not true?
    a. Between Bull A and Bull B, Bull A should produce offspring with more favorable disposition scores.
    b. Between Bull B and Bull C, Bull B is more likely to be labeled a 'big spread' sire.
    c. Between Bull C and Bull D, Bull C is more likely to produce offspring that grade USDA Prime.
    d. Between Bull D and Bull E, Bull D should produce daughters with more reproductive longevity.
    e. Between Bull E and Bull A, Bull E has more proven Direct EPDs.

24. True or False: One of Bull C's maternal grandparents must be homozygous black.
    a. True
    b. False

25. On a per cow basis, how much more valuable is Bull C than Bull D when used in a program in which the top end replacement heifers are retained and all other calves are fed out and sold on grade and yield?
    a. $74.30
    b. $51.10
    c. $13.00
    d. $61.30
    e. None of the above. Bull D has more value in this setting.

26. How many of these bulls are better than breed average for the EPD directly associated with IMF?
    a. 5
    b. 4
    c. 3
    d. 2
    e. 1

27. Within Contemporary Group B, the calves sired by Simmental Bull A300 had an average WW ratio of 101 and the calves sired by Simmental Bull C980 had an average WW ratio of 106. Assuming there is similar data across many contemporary groups, which of the following should you definitely expect to be true?
    a. A300 will have a more accurate WW EPD.
    b. C980 will have a more accurate WW EPD.
    c. A300 will have a higher WW EPD.
    d. C980 will have a higher WW EPD.

28. Purebred Simmental Heifer 103J has a BW EPD of -1.4 with an accuracy of 0.4. What is the possible change of her BW EPD?
    a. 1.8
    b. 1.4
    c. 1.2
    d. 3.0
    e. Not enough information is available.

29. Simmental Bull D14 has a YW EPD that ranks in the 40th Percentile. Simmental Bull D37 has a YW EPD that ranks in the 15th Percentile. Based on this information, which of the following should you definitely expect to be true?
    a. Bull D14 will produce offspring with heavier adjusted yearling weights, on average.
    b. Bull D37 will produce offspring with heavier adjusted yearling weights, on average.
    c. Bull D14 will have a higher WW EPD.
    d. Bull D37 will have a higher WW EPD.

30. With 1660 progeny reported, which popular AI sire ranked as the most used bull for 2020?
    Note: This list was published in the March 2022 issue of the Register*. It recognizes progeny reported during the 2020 calendar year.*
    a. TJ Franchise 451D
    b. CCR Cowboy Cut 5048Z
    c. WLE Copacetic E02
    d. WS Proclamation E202
    e. Hook's Eagle 6E

TIEBREAKER QUESTIONS

Questions 31 through 35 are tiebreaker questions only.

31. In order to qualify for the 50% off genomic and parentage testing offered through ASA's Calf Crop Genomics project, what percentage of the calf crop must a participating breeder test?
    a. 100%
    b. 93%
    c. 90%
    d. 80%

32. The average adjusted yearling weight for a contemporary group of sale bulls is 1300 pounds. Lot 3 was one of the high performing bulls, with an adjusted yearling weight of 1456 pounds. What is his yearling weight ratio?
    a. 106
    b. 112
    c. 118
    d. 126
    e. 156

33. ASA and IGS recently analyzed over 140,000 daughters from bulls with high-accuracy Stayability EPDs. What was the primary finding of this analysis?
    a. Daughters of bulls in the Top 25% for STAY are more than 60% likely to remain in the herd at six years of age.
    b. Daughters of bulls in the Top 25% for STAY are more than twice as likely to remain in the herd at six years of age compared to daughters of bulls in the Bottom 25%.
    c. Daughters of bulls in the Top 25% for STAY average almost five more calves in their lifetime compared to daughters of bulls in the Bottom 25%.
    d. While there was a significant difference in reproductive longevity between daughters of bulls in the Top 25% and bulls in the Bottom 25% for STAY, there was no measurable difference between daughters of bulls in the middle quartiles.

34. In beef cattle production, which of the following is not an Economically Relevant Trait?
    a. Birth Weight
    b. Weaning Weight
    c. Heifer Pregnancy
    d. Yield Grade

35. According to the International Genetic Solutions website, there are more than 20 million animals in the IGS collaborative database. Approximately how many of these animals have been genotyped?
    a. 750,000
    b. 500,000
    c. 350,000
    d. 150,000

ASA #: 3097854
Registered
AMERICAN SIMMENTAL

CLRS DIVIDEND 405D

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 - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	11.3	0.8	83.3	130.5	0.30	4.9	10.5	52.1	16.2	14.7	28.2	-0.20	0.15	-0.048	0.50	-0.53	136.8	81.5
PC	±1.72	±0.27	±1.96	±3.6	±0.004	±2.77	±4.17	±3.51	±4.05	±2.15	±4.83	±0.09	±0.073	±0.016	±0.133	±0.2		
ACC	0.78	0.91	0.88	0.86	0.86	0.65	0.65	0.71	0.43	0.57	0.75	0.55	0.72	0.60	0.69	0.20		
%	45	35	30	20	15	70	99	95	55	15	55	99	40	99	99	1	35	35

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	*USAAR - 3358325*	2370545	BB	PP
	CLRS BONNIA 405 B		2853921	BH	PP
	CLRS ZINNIA 200 Z		2642011	R	PP

ASA #: 3481590
Registered
AMERICAN SIMMENTAL

ES RIGHT TIME FA110-4

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: FA110-4
Right Ear

Fresh Embryo Bull | PB SM | PQB GE

TraitTrac
(Check available results)

Owner: 214702 - CK CATTLE COMPANY
Breeder: 004441 - EICHACKER SIMMENTALS

Birth Date: 2018-02-15
Original Issue: 2018-10-29

BOLT - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	6.6	3.5	88.6	145.5	0.36	2.2	22.8	67.0	18.4	10.4	38.0	-0.32	0.30	-0.073	0.79	-0.32	142.6	86.6
PC	±3.28	±0.84	±5.38	±8.48	±0.009	±5.21	±9.04	±7.74	±4.76	±3.05	±8.49	±0.12	±0.12	±0.024	±0.202	±0.237		
ACC	0.58	0.72	0.67	0.67	0.67	0.34	0.24	0.36	0.33	0.39	0.56	0.42	0.54	0.41	0.53	0.05		
%	95	90	15	10	2	99	60	30	30	65	20	95	15	75	75	65	25	20

Pedigree

			Color	HPS
	HTP SVF IN DEW TIME	*CANSM - 671317*	2285555	BB	PP
	WELSHS DEW IT RIGHT067T		2403649	BB	PP
	SVF/NJC SENERITA N29		2204433		P
ES RIGHT TIME FA110-4			3481590	BB	PP
	REMINGTON LOCK N LOAD54U	*CANSM - 709087*	2503661	BH	PP
	ES A110		2752773	BB	PP
	ESU56		2448632	BB	PP

ASA #: 3499731
Registered
AMERICAN SIMMENTAL
EID:*840003150639935*

KBHR CIMARRON F151

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: F151
Left Ear

Frozen Embryo Bull | PB SM | PQB GE

TraitTrac
(Check available results)

Owner: 004086 - BRIDLE BIT SIMMENTALS
Breeder: 066206 - KELLERS BROKEN HEART RANCH

Birth Date: 2018-03-22
Original Issue: 2019-03-27

BOLT - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	15.1	-4.2	61.0	95.1	0.21	11.4	26.2	56.6	22.3	12.8	25.2	-0.33	0.87	-0.023	1.05	-0.39	193.7	94.5
PC	±2.73	±0.72	±4.4	±6.68	±0.007	±4.74	±8.45	±7.38	±4.19	±3	±7.14	±0.1	±0.114	±0.02	±0.176	±0.237		
ACC	0.65	0.76	0.73	0.74	0.74	0.40	0.29	0.39	0.41	0.40	0.63	0.48	0.56	0.51	0.59	0.05		
%	10	1	99	95	75	1	30	80	2	35	65	90	1	99	20	25	1	4

Pedigree

			Color	HPS
	HOOKS SHEAR FORCE 38K	*CANSM - 684162*	2081939	BH	PP
	HOOK`S BEACON 56B	*USAAR - 4271289*	2854180	BB	PP
	HOOKS ZAFIRAH 41Z		2802160	BH	PP
KBHR CIMARRON F151			3499731	BB	PP
	WS HOT BEEF X38		2548377	B	PP
	BAR CK MS X38 106Z		2682358	BB	PP
	BAR CK MS MEAT MKR 323T		2378699	B	P

ASA #: 3805518
Registered
AMERICAN SIMMENTAL

LHT TOP TEAR 54H

Black (Homozygous Black)
Polled

Tattoo: 54H
Both Ears

Single Birth Bull | PB SM | PQS GE

TraitTrac
(Check available results)

Owner: 345091 - KRIEGEL, CURTIS
Breeder: 002467 - TRAUERNICHT SIMMENTALS

Birth Date: 2020-01-10
Original Issue: 2020-11-21

BOLT - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	11.4	3.7	94.3	135.5	0.26	5.7	34.9	82.0	21.4	15.7	43.8	-0.41	-0.08	-0.105	0.89	-0.38	132.4	81.5
PC	±4.37	±1.53	±8.64	±13.62	±0.015	±6	±10	±8.95	±5.18	±3.1	±10.04	±0.12	±0.143	±0.024	±0.232	±0.242		
ACC	0.44	0.49	0.47	0.47	0.47	0.24	0.16	0.26	0.27	0.38	0.48	0.38	0.45	0.41	0.46	0.03		
%	45	90	10	15	40	50	2	1	4	10	10	60	95	20	50	30	45	35

Pedigree

			Color	HPS
	TJ MAIN EVENT 503B	2891336	BB	PP
TJ TEARDROP 783F		3459734	BB	PP
	TJ MS 38W	2529932	BH	PP
LHT TOP TEAR 54H		3805518	BB	P
	CCR COWBOY CUT 5048Z *CANSM - 790139*	2703910	BB	PP
LHT MS COWBOY CUT 169E		3315800	B	P
	LHT MS RANCH HAND 192W	2506289	B	P

ASA #: 3644912
Registered
AMERICAN SIMMENTAL

W/C REST EASY 752G

Black (Homozygous Black)
Polled (Homozygous Polled)

Tattoo: 752G
Left Ear

Single Birth Bull | PB SM | PQS GE

TraitTrac
(Check available results)

Owner: 355120 - WESTERN CATTLE SOURCE SELECT SIRES
Breeder: 003773 - WERNING, DALE

Birth Date: 2019-02-27
Original Issue: 2019-12-03

BOLT - 2022-05-10

	CE	Brth	Wean	Year	ADG	MCE	Milk	MWW	Stay	Doc	CW	YG	Marb	BF	REA	Shr	API	TI
EPD	16.4	-2.9	80.8	127.0	0.29	8.7	30.8	71.1	14.1	13.6	31.7	-0.45	0.17	-0.083	1.06	-0.30	147.5	88.9
PC	±3.43	±0.96	±6.36	±10.54	±0.011	±5.69	±10.23	±8.83	±5.18	±3.15	±9.46	±0.12	±0.138	±0.024	±0.224	±0.235		
ACC	0.56	0.68	0.61	0.59	0.59	0.28	0.14	0.27	0.27	0.37	0.51	0.39	0.47	0.39	0.48	0.06		
%	3	2	40	25	20	10	10	15	75	25	40	35	40	55	15	75	20	15

Pedigree

			Color	HPS
	HOOK`S BOZEMAN 8B	2854480	BB	PP
MR SR 71 RIGHT NOW E1538		3325668	BB	PP
	MISS SR C1538	3078408	BB	PP
W/C REST EASY 752G		3644912	BB	PP
	W/C EXECUTIVE ORDER 8543B	2900283	BH	PP
W/C MISS WERNING 752E		3479632	B	PP
	W/C MISS WERNING 5343C	3045545	BB	PP

American Simmental Association Possible Change Table

Acc	CE	BW	WW	YW	MCE	Mlk	MWW	Stay	CW	YG	Mrb	BF	REA	WB
0.0	7.8	3.0	16.3	25.7	7.9	11.9	12.1	7.1	19.3	0.20	0.26	0.04	0.43	0.25
0.1	7.0	2.7	14.7	23.1	7.1	10.7	10.9	6.4	17.4	0.18	0.23	0.04	0.39	0.23
0.2	6.2	2.4	13.0	20.6	6.3	9.5	9.7	5.7	15.4	0.16	0.21	0.03	0.34	0.20
0.3	5.4	2.1	11.4	18.0	5.5	8.3	8.5	4.9	13.5	0.14	0.18	0.03	0.30	0.18
0.4	4.7	1.8	9.8	15.4	4.7	7.1	7.3	4.2	11.6	0.12	0.16	0.02	0.26	0.15
0.5	3.9	1.5	8.2	12.9	3.9	6.0	6.1	3.5	9.7	0.10	0.13	0.02	0.22	0.13
0.6	3.1	1.2	6.5	10.3	3.1	4.8	4.8	2.8	7.7	0.08	0.10	0.02	0.17	0.10
0.7	2.3	0.9	4.9	7.7	2.4	3.6	3.6	2.1	5.8	0.06	0.08	0.01	0.13	0.08
0.8	1.6	0.6	3.3	5.1	1.6	2.4	2.4	1.4	3.9	0.04	0.05	0.01	0.09	0.05
0.9	0.8	0.3	1.6	2.6	0.8	1.2	1.2	0.7	1.9	0.02	0.03	0.00	0.04	0.03
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00