

The Florida Bull Test, 2013–2014¹

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Test Procedures

The 2013–2014 Florida Bull Test was a 112-day performance test and a breeding-soundness evaluation of each bull that qualified for the auction. Upon arrival, bulls were sorted into contemporary groups based on consignor and breed (8–12 bulls per pen), and they were housed in the UF/IFAS North Florida Research and Education Center's Feed Efficiency Facility where they received free-choice access to feed and water with a target rate of gain of 3.5 lb./day. The diet consisted of 42% pelleted soy hulls, 41% pelleted corn gluten feed, 12% loose peanut hulls, and 5% molasses liquid supplement containing vitamins, minerals, and ionophore (monensin) on a dry matter (DM) basis. The diet was formulated to contain 16.3% crude protein (CP) and 0.51 Mcal net energy of gain (NEg) per lb. of diet DM.

After a three-week adaptation period, bulls were weighed on two consecutive days to obtain an objective average unshrunk starting weight, which became the on-test starting weight. Bulls were inspected daily for any arising health problems. An intermediate unshrunk weight was obtained 28 days after starting the test and another unshrunk weight was obtained on two consecutive days for an accurate 56-day weight and complete feed-efficiency portion of the test. On day 56 of the test, bulls were moved from the feed efficiency facility to 3.25-acre pastures where they stayed for the remainder of the test. On the pasture, bulls remained in the same groups assigned in the feed-efficiency facility pens. Bulls also continued receiving free-choice access to the same diet fed in the facility, with the addition of

free-choice bermudagrass hay. An additional intermediate unshrunk weight was assessed on day 84 of the test. At the conclusion of the 112-day feeding period, bulls were weighed again on two consecutive days to determine the final test weight. Animal performance, specifically average daily gain (ADG), was calculated using only the official starting and finishing test weights. Throughout the test, bulls were observed and screened for structural soundness and disposition. Bulls deemed structurally unsound or those having poor disposition did not qualify for the sale.

Assessment of Feed Efficiency

After bulls arrived at the feed efficiency facility, they were fitted with electronic identification (EID) tags to monitor daily feed intake using the GrowSafe system, and ADG was calculated for the 56-day feed-efficiency portion of the test. Residual feed intake (RFI) was the measure of feed efficiency used to rank the bulls in the test, and it was calculated as the difference between actual feed intake and expected feed intake. Daily feed intake was measured on each individual bull, and RFI was calculated as described previously by Maddock and Lamb (2009), which is available at http://edis.ifas.ufl.edu/an217.

Test Rules and Regulations General Policies and Procedures

1. Bulls must have been born from August 15 to December 31 of 2012.

- 1. This document is AN301, one of a series of the Animal Sciences Department, UF/IFAS Extension. Original publication date May 2014. Visit the EDIS website at http://edis.ifas.ufl.edu.
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- 2. All consignors' herds must have been enrolled in their respective breed association's performance records program. State beef cattle improvement association programs are acceptable for herds whose breed association does not have a performance records program.
- 3. Calves must have completed the weaning phase of the performance records program with their contemporary group, and this information must be presented at delivery. If data was not returned from the association, a copy of the weight data with the number of contemporaries must be provided.
- 4. All calves must be purebred or full blood and registered with their breed association. Composite bulls must have both sire and dam registered in an acknowledged beef breed association. In order to participate, each bull must have a registration certificate and pedigree when delivered to the test station.
- 5. A bull must weigh 2.5 lb./day of age when delivered to the test station. A shrink of 1% per hour of transit time is allowed.
- 6. Bulls must be weaned a minimum of three weeks before delivery.
- 7. Bulls must be structurally sound and show evidence of good growth potential.
- 8. Bulls' actual birth weight is required.
- 9. Consignments over 10 head will be accepted on a space-available basis.
- 10. Priority for space will be given to Florida residents. Bulls from other states will be accepted on a space-available basis.
- 11. Sire-group testing of bulls is more desirable than individual testing, because it provides more information to both breeders and prospective buyers. Therefore, breeders and buyers will receive preference if space becomes limited.
- 12. Preference will be given to breeders/consignors who are members of the Florida Cattlemen's Association.
- 13. Embryo transfer bulls must be designated as such, and the breed of the recipient cow designated.

- 14. Bulls must have legible permanent identification (tattoo or brand) corresponding to the registration paper at delivery.
- 15. Horned bulls will be grouped separately. It is recommended that they be dehorned and healed by delivery.

Health Requirements

- 1. All bulls must be in good health and accompanied by a health certificate showing they are from a Brucellosis-free accredited or certified free herd with the herd number on the certificate, or they must have a negative test for Brucellosis no more than 30 days before delivery. Bulls originating from a state that is not TB-free must also be accompanied by a health certificate showing they are a certified TB-free herd or have a negative test for TB no more than 30 days before delivery.
- 2. Bulls must have been vaccinated twice (minimum 21 days between vaccinations) for 5-way leptospirosis, 7- or 8-way clostridium with *Haemophilus somnus*, and IBR/PI3/BVD/BRSV, with the last vaccination at least three weeks or more prior to delivery. Vaccination for *Pasteurella* is optional. Intranasal IBR/PI3 is recommended.
- 3. Consignors are responsible for the cost of treatment if their bull requires examination by a veterinarian.
- 4. Consignors should contact their local or state veterinarian for interstate permit and health requirements. An official certificate of veterinary inspection (health paper) is required for each bull.

Test Results

The Florida Bull Test focuses on testing bulls on a diet that includes a high proportion of forage, targeting an ADG of 3.5 lb./day. In addition, bulls were placed in the UF/IFAS NFREC Feed Efficiency Facility to obtain individual feed intake data and to calculate feed efficiency. Overall ranking for the test is based on ADG and the weight per day of age (WDA), generating an index ratio. The top performing bull and top performing Simmental bull, LLCC Big Jake Z211, were owned by L&L Cattle Company of Marianna, Florida, that indexed 141 with an ADG of 5.31 and WDA of 3.66 lb./day. The top SimAngus bull, called J&W Mr. Catchin' a Dream, that was owned by J&W Simmental Farm of Headland, Alabama, was ranked second overall and indexed 129 with an ADG of 4.51 and WDA of 3.89 lb./day. The top Charolais bull was owned by Rogers Bar HR of Collins, and MS was ranked fifth overall and indexed 128 with an ADG of 4.66 and WDA of 3.43 lb./day. The top Angus bull, called

BOSH Little Man 30, was owned by BOSH Cattle Company of Marianna, Florida, and ranked 12th overall and indexed 115 with an ADG of 4.30 and WDA of 2.96 lb./day. The top Hereford bull, also known as JTN Beefmaid S342 812 Z10, was owned by J Taylor Neighbors of Americus, Georgia, and ranked 99th overall and indexed 93 with an ADG of 3.01 and WDA of 2.89 lb./day. The top Red Angus bull, AWFM Rose Canyon 708, that was owned by A&W Farms of Jackson, South Carolina, ranked 114th overall and indexed 80 with an ADG of 2.66 and WDA of 2.43 lb./day. Table 1 summarizes feed efficiency data; Table 2 individual feed intake and feed efficiency; and Table 3 individual animal performance.

Table 1. Summary of feed efficiency data for bulls in the 2013–2014 Florida Bull Test

Item	Daily Intake, Ib of DM/day	RFI, lb of DM/ day	Feed:Gain
Average	21.28	0.00	7.16
Range	7.21–32.99	-7.79–6.54	3.39-43.52

Sale Summary

The Florida Bull Test Sale was held on January 18, 2014, at the UF/IFAS North Florida Research and Education Center in Marianna, Florida. Of the 126 bulls originally consigned to the test, 79 bulls were on offer for sale. Only bulls meeting specific benchmarks were eligible for the sale. In addition, bulls were inspected for structural soundness and disposition, and they passed a breeding soundness exam to qualify for the sale. Additional information, such as actual performance data, expected progeny differences (EPDs), and carcass ultrasound data, was available for bull buyers to aid in the selection of excellent quality bulls to purchase. The sale grossed \$239,050 with an average of \$3,058 per lot. Angus bulls averaged \$3,009 on 39 lots; a single Hereford bull was sold for \$2,600; SimAngus bulls averaged \$3,148 on 28 lots; and Simmental bulls averaged \$3,045 on 11 lots. The high-selling bull was lot 3, SSF BLK LKY Charm Z426, selling for \$5,400. He was purchased by Don Smith of Dunnellon, Florida. The consignor was Pintlala Cattle Company of Hope Hull, Alabama.

Reference

Maddock, T. D., and G. C. Lamb. 2009. *The Economic Impact of Feed Efficiency in Beef Cattle*. AN217. Gainesville: UF/IFAS. http://edis.ifas.ufl.edu/an217.



Figure 1. Larry Warden and Leon Foster of L&L Cattle Co. receiving their plaque for their consignment LLCC Big Jake Z211 that was the winner of the FL Bull Test and Simmental breed winner. Pictured (from L to R): David Thomas (UF/IFAS NFREC Beef Unit Supervisor), Larry Warden, Leon Foster, and Nick Comerford (UF/IFAS NFREC Director).



Figure 2. Terry Nichols of Uncle Henry Farms receiving his plaque for his consignment UHF Regis 2003 that was the feed efficiency winner of the Florida Bull Test. Pictured (from L to R): David Thomas (UF/IFAS NFREC Beef Unit Supervisor), Terry Nichols, and Nick Comerford (UF/IFAS NFREC Director).

Table 2. 2013–2014 Florida Bull Test individual feed efficiency and feed intake data.

Test ID	Breed	56-Day Daily Feed Intake, lb/day	Feed:Gain	Gain:Feed	56-Day RFIª, lb/day	56-Day Feed Efficiency Rank
1128	Angus	23.02	8.95	0.11	-7.79	1
1095	Simmental	26.12	6.50	0.15	-6.95	2
1131	SimAngus	22.66	5.78	0.17	-5.51	3
1187	SimAngus	21.35	5.30	0.19	-5.49	4
1113	SimAngus	24.58	7.02	0.14	-5.09	5
1146	Angus	13.56	5.27	0.19	-4.65	6
1132	Angus	20.12	7.99	0.13	-4.31	7
1104	SimAngus	21.30	5.90	0.17	-4.07	8
1174	Angus	21.82	7.08	0.14	-3.95	9
1145	Angus	16.28	8.14	0.12	-3.90	10
1117	Angus	17.84	4.48	0.22	-3.68	11
1152	Angus	25.90	10.11	0.10	-3.65	12
1158	Angus	18.91	6.62	0.15	-3.63	13
1115	SimAngus	19.28	8.34	0.12	-3.63	14
1156	Angus	17.25	15.58	0.06	-3.63	15
1202	Charolais	25.63	6.17	0.16	-3.55	16
1081	Angus	17.71	6.48	0.15	-3.40	17
1080	Simmental	23.18	6.74	0.15	-3.27	18
1121	SimAngus	21.17	6.48	0.15	-3.19	19
1183	SimAngus	20.04	8.31	0.12	-3.14	20
1188	SimAngus	17.58	5.47	0.18	-3.08	21
1114	SimAngus	17.55	7.10	0.14	-3.03	22
1102	Hereford	16.70	8.54	0.12	-2.92	23
1110	SimAngus	22.69	8.92	0.11	-2.90	24
1086	Simmental	21.06	7.68	0.13	-2.81	25
1106	SimAngus	23.01	7.06	0.14	-2.70	26
1124	SimAngus	21.38	7.17	0.14	-2.68	27
1142	Angus	20.98	43.52	0.02	-2.65	28
1182	Angus	19.20	6.98	0.14	-2.62	29
1165	SimAngus	24.79	11.47	0.09	-2.62	30
1159	Angus	16.08	5.53	0.18	-2.50	31
1085	Red Angus	15.17	7.45	0.13	-2.37	32
1185	SimAngus	24.01	11.21	0.09	-2.20	33
1103	SimAngus	21.72	6.97	0.14	-2.03	34
1148	Angus	13.74	5.70	0.18	-1.96	35
1111	Simmental	23.29	7.23	0.14	-1.63	36
1078	Angus	18.57	10.29	0.10	-1.57	37
1123	Angus	19.28	6.83	0.15	-1.54	38
1120	SimAngus	12.76	3.40	0.29	-1.52	39
1087	Simmental	19.85	6.01	0.17	-1.49	40
1079	Simmental	22.17	6.45	0.16	-1.45	41
1181	SimAngus	23.31	10.00	0.10	-1.24	42
1167	Angus	21.66	6.93	0.14	-1.23	43
1157	Angus	11.55	3.39	0.30	-1.18	44

Test ID	Breed	56-Day Daily Feed Intake, lb/day	Feed:Gain	Gain:Feed	56-Day RFIª, Ib/day	56-Day Feed Efficiency Rank
1119	Angus	25.31	8.22	0.12	-1.09	45
1163	Simmental	25.58	11.37	0.09	-1.04	46
1107	Simmental	19.58	5.88	0.17	-1.04	47
1082	Angus	20.11	7.06	0.14	-1.02	48
1116	Angus	22.45	8.55	0.12	-0.94	49
1129	SimAngus	14.32	3.69	0.27	-0.78	50
1191	Angus	23.24	17.95	0.06	-0.63	51
1135	SimAngus	32.99	8.59	0.12	-0.61	52
1138	Angus	17.49	6.44	0.16	-0.59	53
1170	Angus	19.90	8.47	0.12	-0.58	54
1153	Angus	26.92	12.26	0.08	-0.58	55
1179	Angus	19.74	5.28	0.19	-0.56	56
1200	Charolais	22.64	6.93	0.14	-0.52	57
1189	Angus	18.17	18.17	0.06	-0.46	58
1147	Angus	17.73	18.73	0.05	-0.37	59
1122	Angus	22.26	9.59	0.10	-0.31	60
1195	Angus	15.47	4.33	0.23	-0.23	61
1154	Angus	16.95	5.46	0.18	-0.19	62
1109	SimAngus	23.04	7.52	0.13	-0.17	63
1173	Angus	23.09	6.58	0.15	-0.16	64
1169	Angus	16.09	9.79	0.10	-0.08	65
1130	Simmental	25.95	9.50	0.11	-0.02	67
1108	Simmental	22.46	8.01	0.12	0.04	68
1139	Angus	29.35	8.89	0.11	0.10	69
1084	Red Angus	20.29	7.63	0.13	0.25	70
1105	SimAngus	16.39	4.89	0.20	0.35	71
1166	Simm	16.03	4.08	0.25	0.48	72
1186	SimAngus	22.16	9.93	0.10	0.60	73
1112	SimAngus	21.33	7.47	0.13	0.61	74
1118	Angus	19.88	4.92	0.20	0.66	75
1198	Angus	24.58	7.52	0.13	0.70	76
1137	Angus	21.21	26.40	0.04	0.72	77
1197	Angus	25.12	6.28	0.16	0.77	78
1180	Angus	24.54	9.51	0.11	0.92	79
1184	SimAngus	28.02	7.12	0.14	0.98	80
1172	Angus	22.26	7.19	0.14	1.00	81
1201	Charolais	19.66	4.47	0.22	1.02	82
1133	SimAngus	19.82	10.05	0.10	1.12	83
1144	Angus	17.84	13.69	0.07	1.12	84
1150	Angus	14.34	5.25	0.19	1.17	85
1171	Angus	21.86	7.80	0.13	1.37	86
1088	Simmental	24.94	7.67	0.13	1.40	87
1098	Angus	25.96	6.68	0.15	1.40	88
1077	Angus	20.65	6.65	0.15	1.45	89
1205	Charolais	25.06	6.68	0.15	1.46	90

Test ID	Breed	56-Day Daily Feed Intake, lb/day	Feed:Gain	Gain:Feed	56-Day RFI ^a , lb/day	56-Day Feed Efficiency Rank
1092	SimAngus	24.75	5.41	0.18	1.46	91
1149	Angus	15.00	34.99	0.03	1.47	92
1204	Charolais	24.70	5.87	0.17	1.69	93
1199	Charolais	31.73	10.77	0.09	1.70	94
1143	Angus	12.23	8.89	0.11	1.71	95
1101	Hereford	25.17	7.52	0.13	2.05	96
1097	Angus	28.41	7.67	0.13	2.08	97
1203	Charolais	21.32	5.84	0.17	2.35	98
1090	SimAngus	17.82	4.89	0.20	2.40	99
1136	SimAngus	26.66	8.65	0.12	2.42	100
1164	Angus	17.74	5.69	0.18	2.44	101
1125	SimAngus	18.82	11.98	0.08	2.44	102
1155	Angus	19.57	13.20	0.08	2.82	103
1176	Angus	20.21	5.45	0.18	2.83	104
1089	SimAngus	23.34	7.38	0.14	2.88	105
1175	Angus	22.78	9.93	0.10	2.89	106
1160	Angus	16.90	7.22	0.14	3.08	107
1093	SimAngus	28.45	9.57	0.10	3.12	108
1096	Angus	26.70	5.93	0.17	3.18	109
1190	Angus	15.35	5.97	0.17	3.76	110
1094	Simmental	24.91	5.64	0.18	3.93	111
1162	Simmental	25.68	10.35	0.10	3.99	112
1161	Angus	30.51	11.35	0.09	4.03	113
1083	Red Angus	20.96	10.39	0.10	4.19	114
1196	Angus	21.63	7.12	0.14	4.57	115
1134	SimAngus	21.51	4.87	0.21	4.65	116
1194	Angus	24.38	10.23	0.10	4.71	117
1127	SimAngus	19.32	6.01	0.17	4.87	118
1099	Angus	28.30	8.81	0.11	5.03	119
1178	Angus	22.03	3.26	0.31	5.47	120
1100	Angus	26.01	7.19	0.14	5.60	121
1140	Angus	22.31	6.79	0.15	5.79	122
1192	Angus	17.51	24.51	0.04	6.14	123
1193	Angus	23.34	10.37	0.10	6.18	124
1151	Angus	19.32	7.03	0.14	6.26	125
1141	Angus	28.71	8.91	0.11	6.54	126

Table 3. 2013–2014 Florida Bull Test individual performance in order of final test index.

Frame Score	4.1	3.1	9.9	7.0	4.8	5.1	4.0	4.1	3.8	6.1	5.5	4.7	5.7	5.6	5.7	4.7	6.9	5.3	5.2	5.6	4.8	5.5	5.5	5.2	6.2	6.2	5.1	5.3	6.8	5.8	0.9	6.9	4.9	6.4
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Final Index Ratio	88	99	104	100	66	6	77	80	26	06	94	06	108	118	121	114	141	85	115	112	66	113	93	82	103	102	105	107	127	86	109	108	93	104
Final Test Index ^c , lb/d	5.59	4.20	6.61	6.31	6.27	6.16	4.91	5.09	4.84	5.72	5.99	5.71	6.87	7.45	7.69	7.24	8.97	5.40	7.26	7.13	6.28	7.18	5.91	5.22	6.54	6.44	89.9	6.81	8.07	6.18	6.93	98.9	5.91	6.57
Final Test WDA ^b , Ib/d	2.57	1.94	3.19	3.12	2.80	2.73	2.30	2.43	2.26	2.79	2.95	2.55	2.71	3.17	3.33	2.97	3.66	2.32	2.96	3.22	2.80	3.12	2.89	2.63	3.11	3.03	3.22	3.18	3.64	2.95	3.19	3.31	2.67	3.09
Final Test ADG ^a , lb/d	3.02	2.26	3.42	3.19	3.48	3.43	2.61	2.66	2.58	2.93	3.04	3.17	4.16	4.28	4.36	4.28	5.31	3.07	4.30	3.91	3.48	4.06	3.01	2.59	3.43	3.41	3.46	3.64	4.43	3.23	3.74	3.55	3.24	3.48
Final Weight, lb	874	814	1283	1455	1228	1223	1030	1108	1018	1283	1355	1198	1098	1285	1443	1380	1668	1060	1213	1525	1205	1485	1253	1175	1353	1353	1253	1233	1413	1358	1350	1390	1255	1455
84-Day Weight, lb	810	746	1205	1395	1100	1120	964	1035	926	1200	1350	1135	826	1185	1345	1245	1550	1000	1095	1430	1120	1340	1205	1065	1245	1280	1145	1145	1280	1290	1255	1265	1155	1375
56-Day Weight, lb	710	662	1093	1290	991	866	851	959	842	1108	1200	1025	809	1010	1210	1068	1320	941	983	1305	962	1233	1103	962	1143	1173	1053	1008	1103	1153	1103	1135	1073	1225
28-Day Weight, lb	610	594	974	1140	902	888	908	872	750	1030	1125	934	694	884	1060	984	1205	850	838	1180	910	1130	1010	986	1045	1035	950	918	966	1045	866	1040	994	1150
Start Weight, lb	536	561	006	1098	838	838	738	810	728	954	1015	843	632	908	954	901	1073	716	731	1088	815	1030	915	885	896	971	865	825	916	966	931	993	892	1065
Breed	Angus	Angus	Simm	Simm	Angus	Angus	Red Angus	Red Angus	Red Angus	Simm	Simm	Simm	SimAngus	SimAngus	SimAngus	SimAngus	Simm	Simm	Angus	Angus	Angus	Angus	Hereford	Hereford	SimAngus	SimAngus	SimAngus	SimAngus	Simm	Simm	SimAngus	SimAngus	Simm	SimAngus
Test ID	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1092	1093	1094	1095	1096	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112

lest ID breed	Start Weight, lb	28-Day Weight, lb	56-Day Weight, lb	84-Day Weight, Ib	Final Weight, lb	Final lest ADG², lb/d	Final Test WDA ^b , Ib/d	Final Test Index ^c , lb/d	Final Index Ratio	Frame
SimAngus	783	882	626	1100	1188	3.61	3.03	6.64	105	5.8
SimAngus	626	1040	1118	1270	1403	3.78	3.24	7.02	111	6.2
SimAngus	896	1055	1098	1230	1335	3.28	3.12	6.40	101	5.4
Angus	717	784	864	988	1058	3.04	2.91	5.95	94	5.5
Angus	769	968	992	1060	1140	3.31	3.03	6.34	100	5.2
Angus	876	984	1103	1205	1283	3.63	3.26	6.88	109	0.9
Angus	955	1020	1128	1285	1390	3.88	3.26	7.15	113	6.1
SimAngus	772	882	982	1065	1163	3.49	3.04	6.53	103	5.8
SimAngus	726	1045	1160	1260	1388	3.67	3.43	7.09	112	6.4
Angus	838	916	896	1110	1213	3.34	2.77	6.11	96	5.7
Angus	857	906	1015	1145	1170	2.79	2.64	5.44	98	5.1
SimAngus	825	884	992	1155	1288	4.13	2.78	6.91	109	3.8
SimAngus	815	892	903	1040	1113	2.66	2.69	5.34	84	6.1
SimAngus	1073	1180	1253	1415	1550	4.26	3.38	7.64	121	5.7
Angus	901	974	1045	1155	1265	3.25	3.11	6.36	100	5.4
SimAngus	1053	1155	1270	1340	1458	3.62	3.37	6.99	110	5.2
SimAngus	913	866	1133	1220	1353	3.92	3.28	7.21	114	4.6
Angus	776	856	917	1040	1138	3.23	2.95	6.18	86	4.9
SimAngus	977	896	1088	1195	1308	2.95	3.13	90.9	96	9.9
SimAngus	1120	1205	1368	1490	1625	4.51	3.68	8.19	129	7.1
SimAngus	1105	1210	1320	1445	1613	4.53	3.59	8.12	128	6.5
SimAngus	1018	1095	1190	1315	1405	3.46	3.46	6.92	109	9.9
Angus	940	944	985	1095	1228	2.57	2.70	5.27	83	5.3
Angus	953	1000	1105	1250	1380	3.81	3.03	6.84	108	5.7
Angus	840	906	1025	1150	1240	3.57	2.73	6.30	66	5.7
Angus	951	1070	1135	1270	1363	3.67	2.84	6.52	103	5.4
Angus	862	958	1043	1170	1245	3.42	2.64	90.9	96	4.4
Angus	834	874	861	926	1088	2.26	2.23	4.50	71	4.4
Angus	793	830	870	926	1093	2.67	2.23	4.91	77	4.3
Angus	733	716	908	948	1085	3.14	2.45	5.59	88	4.0
Angus	715	736	827	924	1010	2.63	2.18	4.82	9/	3.9
Angus	951	866	1095	1240	1383	3.85	2.80	6.65	105	4.7
Angus	714	810	292	894	1020	2.73	2.18	4.91	77	3.2
Angus	622	969	757	892	1043	3.75	2.34	60.9	96	4.1

Test ID	Breed	Start Weight, lb	28-Day Weight, lb	56-Day Weight, lb	84-Day Weight, Ib	Final Weight, Ib	Final Test ADG³, lb/d	Final Test WDA ^b , Ib/d	Final Test Index ^c , lb/d	Final Index Ratio	Frame Score
1149	Angus	742	800	992	932	1065	2.88	2.46	5.34	84	4.5
1150	Angus	672	260	825	938	1038	3.26	2.34	2.60	88	4.2
1151	Angus	821	888	975	1090	1255	3.88	2.70	6.58	104	4.4
1152	Angus	894	1035	1038	1195	1340	3.98	2.93	6.91	109	4.8
1153	Angus	714	802	837	066	1120	3.63	2.61	6.24	86	4.8
1154	Angus	700	778	874	992	1095	3.53	2.36	5.89	93	3.6
1155	Angus	999	682	748	874	936	2.42	2.09	4.51	71	4.1
1156	Angus	728	794	790	886	1068	3.03	2.49	5.53	87	4.9
1157	Angus	657	750	848	966	1128	4.20	2.65	6.85	108	5.6
1158	Angus	713	774	873	946	1030	2.83	2.22	5.05	80	4.1
1159	Angus	691	780	854	066	1108	3.72	2.59	6.31	100	4.7
1160	Angus	746	810	877	1035	1160	3.70	2.51	6.21	86	4.2
1161	Angus	957	1035	1108	1280	1410	4.04	3.02	7.06	111	4.7
1162	Simm	994	1070	1133	1285	1405	3.67	3.47	7.14	113	6.3
1163	Simm	787	844	913	1005	1093	2.73	2.81	5.54	87	5.8
1164	Angus	806	978	1083	1230	1338	3.83	3.07	06.9	109	5.4
1165	SimAngus	780	898	901	1020	1135	3.17	3.26	6.43	101	5.8
1166	Simm	1033	1165	1253	1375	1498	4.15	3.59	7.74	122	6.1
1167	Angus	1008	1080	1183	1340	1428	3.75	3.02	6.77	107	5.9
1168	Angus	1070	1040	1063	1105	1273	1.81	2.66	4.47	71	5.2
1169	Angus	1003	994	1095	1230	1325	2.88	2.94	5.82	92	5.6
1170	Angus	916	942	1048	1225	1328	3.67	2.90	6.58	104	4.9
1171	Angus	825	894	982	1130	1248	3.77	3.03	08.9	107	5.1
1172	Angus	818	884	992	1125	1198	3.39	2.84	6.23	86	4.6
1173	Angus	871	942	1068	1140	1250	3.38	2.96	6.34	100	5.0
1174	Angus	1110	1170	1283	1390	1448	3.01	3.02	6.04	95	9.5
1175	Angus	894	938	1023	1170	1183	2.58	2.65	5.23	82	5.5
1176	Angus	1035	1115	1243	1375	1473	3.91	3.17	7.07	112	5.5
1178	Angus	790	852	914	1020	1108	2.83	2.80	5.63	89	4.8
1179	Angus	958	1070	1168	1305	1375	3.72	3.10	6.82	108	6.1
1180	Angus	1006	1070	1150	1240	1325	2.85	2.84	5.69	06	5.6
1181	SimAngus	887	950	1018	1130	1213	2.91	2.64	5.54	87	0.9
1182	Angus	926	1045	1110	1315	1410	4.05	3.19	7.24	114	5.7
1183	SimAngus	875	964	1010	1130	1253	3.37	2.88	6.25	66	5.3

SimAngus 782 878 1003 SimAngus 1128 1200 1248 SimAngus 1010 1095 1135 SimAngus 1010 1095 1135 SimAngus 1073 1170 1268 SimAngus 1073 1170 1253 Angus 822 850 878 Angus 820 894 878 Angus 846 884 886 Angus 814 904 940 Angus 814 908 984 Angus 814 908 984 Angus 826 912 1050 Angus 826 912 1050 Charolais 833 930 998 Charolais 806 924 1063 Charolais 801 990 1006 Charolais 719 792 929 Charolais 719 792 929	Test ID	Breed	Start Weight, lb	28-Day Weight, lb	56-Day Weight, lb	84-Day Weight, lb	Final Weight, Ib	Final Test ADG³, lb/d	Final Test WDA ^b , Ib/d	Final Test Index ^c , lb/d	Final Index Ratio	Frame Score
SimAngus 1128 1200 1248 1340 1445 2.83 SimAngus 1010 1095 1135 1310 1420 3.66 SimAngus 982 1060 1208 1400 1508 469 SimAngus 1073 1170 1253 1345 1448 3.35 Angus 822 850 878 1010 1075 2.26 Angus 820 896 964 1055 1150 2.95 Angus 846 884 886 1090 1198 3.14 Angus 814 904 1062 1198 3.14 Angus 814 904 1085 123 3.65 Angus 814 904 1065 1140 3.58 Angus 814 908 984 1115 1140 3.74 Angus 826 910 1140 1125 1140 3.74 Charolais <td>1184</td> <td>SimAngus</td> <td>782</td> <td>878</td> <td>1003</td> <td>1110</td> <td>1193</td> <td>3.67</td> <td>2.89</td> <td>92.9</td> <td>103</td> <td>5.4</td>	1184	SimAngus	782	878	1003	1110	1193	3.67	2.89	92.9	103	5.4
SimAngus 1010 1095 1135 1310 1420 3.66 SimAngus 982 1060 1208 1400 1508 4.69 SimAngus 1073 1170 1253 1345 1448 3.35 Angus 822 850 878 1010 1075 2.26 Angus 820 896 964 1055 1150 2.95 Angus 846 884 886 1090 1198 3.14 Angus 814 904 940 1085 1253 3.65 Angus 814 904 940 1085 1190 3.76 Angus 814 904 940 1085 1160 3.76 Angus 814 904 940 1085 1160 3.76 Angus 814 908 944 1115 1190 3.78 Angus 826 912 1040 1140 1228	1185	SimAngus	1128	1200	1248	1340	1445	2.83	3.25	90.9	96	6.5
SimAngus 982 1060 1208 1400 1508 4.69 SimAngus 1073 1170 1253 1345 1448 3.35 Angus 822 850 878 1010 1075 2.26 Angus 820 896 964 1055 1150 2.95 Angus 826 994 1002 1185 1265 3.00 Angus 814 904 940 1085 1265 3.00 Angus 814 904 940 1085 1130 3.14 Angus 814 904 940 1085 1340 3.76 Angus 814 904 940 1085 1140 3.76 Angus 814 908 944 1115 1190 3.78 Angus 826 912 1045 1140 1228 3.86 Charolais 880 924 1040 1140 1245	1186	SimAngus	1010	1095	1135	1310	1420	3.66	3.13	6.79	107	6.5
SimAngus 1073 1170 1253 1345 1448 3.35 Angus 822 850 878 1010 1075 2.26 Angus 820 896 964 1055 1150 2.95 Angus 820 896 964 1055 1150 2.95 Angus 846 884 886 1090 1198 3.14 Angus 814 904 940 1085 1223 3.00 Angus 814 964 1053 1220 1340 3.75 Angus 814 968 984 1115 1190 3.78 Angus 826 912 1050 1140 1228 3.58 Angus 826 930 1025 1126 3.73 Charolais 833 930 879 1040 1115 3.74 Charolais 806 924 1053 1245 3.25 <	1187	SimAngus	982	1060	1208	1400	1508	4.69	3.46	8.15	129	6.4
Angus 822 850 878 1010 1075 2.26 Angus 820 896 964 1055 1150 2.95 Angus 820 896 964 1055 1150 2.95 Angus 846 884 886 1090 1198 3.14 Angus 814 904 940 1085 1223 3.65 Angus 814 904 940 1085 1223 3.65 Angus 814 904 940 1085 1223 3.65 Angus 814 904 940 1085 1123 3.76 Angus 814 908 984 1115 1190 3.38 Angus 826 912 1050 1140 1128 3.74 Charolais 830 924 1053 1245 3.92 Charolais 801 896 1040 1193 3.50 Char	1188	SimAngus	1073	1170	1253	1345	1448	3.35	3.47	6.82	108	9.9
Angus 820 896 964 1055 1150 2.95 Angus 929 994 1002 1185 1265 3.00 Angus 846 884 886 1090 1198 3.14 Angus 814 904 940 1085 1223 3.65 Angus 919 964 1053 1220 1340 3.76 Angus 814 908 984 1115 1190 3.58 Angus 826 912 1050 1140 1228 3.58 Angus 826 912 1050 1140 1228 3.58 Charolais 842 930 1025 1140 1265 3.86 Charolais 806 924 1053 1245 3.92 Charolais 801 924 1063 1245 3.92 Charolais 801 924 1040 1183 3.60 Charolais <td>1189</td> <td>Angus</td> <td>822</td> <td>850</td> <td>878</td> <td>1010</td> <td>1075</td> <td>2.26</td> <td>2.33</td> <td>4.59</td> <td>72</td> <td>5.0</td>	1189	Angus	822	850	878	1010	1075	2.26	2.33	4.59	72	5.0
Angus 929 1002 1185 1265 3.00 Angus 846 884 886 1090 1198 3.14 Angus 814 904 940 1085 1223 3.65 Angus 919 964 1053 1220 1340 3.76 Angus 759 854 959 1045 1160 3.58 Angus 814 908 984 1115 1190 3.58 Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1140 1265 3.74 Charolais 833 930 998 1140 1265 3.86 Charolais 806 924 1053 1245 1245 3.20 Charolais 801 969 1006 1193 3.50 Charolais 761 900 1006 1193 3.67 Angus	1190	Angus	820	968	964	1055	1150	2.95	2.48	5.43	98	3.6
Angus 846 884 886 1198 3.14 Angus 814 904 940 1085 1223 3.65 Angus 919 964 1053 1220 1340 3.76 Angus 759 854 959 1045 1160 3.78 Angus 814 908 984 1115 1190 3.36 Angus 826 912 1050 1140 1228 3.36 Angus 842 930 1025 1126 3.73 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 924 1053 1245 3.92 Charolais 801 896 1063 1165 1183 4.66 Charolais 761 900 997 1163 3.50 1 Charolais 719 719 719 1185 <	1191	Angus	929	994	1002	1185	1265	3.00	2.74	5.74	91	4.6
Angus 814 904 940 1085 1223 3.65 Angus 919 964 1053 1220 1340 3.76 Angus 759 854 959 1045 1160 3.78 Angus 814 908 984 1115 1190 3.36 Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1140 1265 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 792 879 1040 1115 3.74 Charolais 801 924 1053 1245 3.25 Charolais 801 906 1006 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Angus 900 1100 1186 1185 - -	1192	Angus	846	884	988	1090	1198	3.14	5.66	5.80	91	5.2
Angus 919 964 1053 1220 1340 3.76 Angus 759 854 959 1045 1160 3.58 Angus 814 908 984 1115 1190 3.36 Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1125 1260 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 924 1053 1245 1245 3.92 Charolais 801 896 1063 1245 1330 4.46 Charolais 801 896 1063 1165 1183 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 1010 1108 1185 Simm 987 1040 1185	1193	Angus	814	904	940	1085	1223	3.65	3.09	6.74	106	5.5
Angus 759 854 959 1045 1160 3.58 Angus 814 908 984 1115 1190 3.36 Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1125 1260 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 792 879 1040 1115 3.74 Charolais 806 924 1063 1245 1245 3.92 Charolais 801 896 1066 1090 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1185 — — — Simm 987 1060 1245 — —	1194	Angus	919	964	1053	1220	1340	3.76	2.88	6.63	105	5.5
Angus 814 908 984 1115 1190 3.36 Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1125 1260 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 792 879 1040 1115 3.74 Charolais 806 924 1063 1265 1330 4.46 Charolais 801 896 1006 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Simm 987 1060 1140 1245 — — Simm 987 1060 1245 — — —	1195	Angus	759	854	626	1045	1160	3.58	2.71	6.29	66	4.7
Angus 826 912 1050 1140 1228 3.58 Angus 842 930 1025 1125 1260 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 806 792 879 1040 1115 3.74 Charolais 830 912 1063 1245 1245 3.92 Charolais 801 896 1006 1090 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1196	Angus	814	806	984	1115	1190	3.36	2.78	6.14	97	5.8
Angus 842 930 1025 1125 1260 3.73 Charolais 833 930 998 1140 1265 3.86 Charolais 696 792 879 1040 1115 3.74 Charolais 806 924 1053 1245 1245 3.92 Charolais 801 896 1006 1090 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1197	Angus	826	912	1050	1140	1228	3.58	2.83	6.42	101	4.9
Charolais 833 930 998 1140 1265 3.86 Charolais 696 792 879 1040 1115 3.74 Charolais 806 924 1053 1245 1245 3.92 Charolais 830 912 1063 1193 4.46 4.46 Charolais 761 900 997 1165 1283 4.66 7.66 Charolais 719 792 929 1040 1130 3.67 7.7 Angus 900 1010 1108 1185 — — — Simm 987 1060 1140 1245 — — —	1198	Angus	842	930	1025	1125	1260	3.73	2.92	6.65	105	5.1
Charolais 696 792 879 1040 1115 3.74 Charolais 806 924 1053 1245 1245 3.92 Charolais 830 912 1063 1330 4.46 4.46 Charolais 801 896 1006 1193 3.50 4.66 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1199	Charolais	833	930	866	1140	1265	3.86	2.83	69.9	105	6.2
Charolais 806 924 1053 1245 1245 3.92 Charolais 830 912 1063 1205 1330 4.46 Charolais 801 896 1006 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1200	Charolais	969	792	879	1040	1115	3.74	2.77	6.51	103	7.4
Charolais 830 912 1063 1205 1330 4.46 Charolais 801 896 1006 1090 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Angus 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1201	Charolais	806	924	1053	1245	1245	3.92	2.99	6.91	109	7.4
Charolais 801 896 1006 1193 3.50 Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1202	Charolais	830	912	1063	1205	1330	4.46	3.13	7.59	120	6.9
Charolais 761 900 997 1165 1283 4.66 Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1203	Charolais	801	968	1006	1090	1193	3.50	2.88	6.38	101	9.9
Charolais 719 792 929 1040 1130 3.67 Angus 900 1010 1108 1185 — — Simm 987 1060 1140 1245 — —	1204	Charolais	761	006	266	1165	1283	4.66	3.43	8.09	128	7.6
Angus 900 1010 1108 Simm 987 1060 1140	1205	Charolais	719	792	929	1040	1130	3.67	2.76	6.43	101	6.3
Simm 987 1060 1140	1097	Angus	006	1010	1108	1185	I	I	I	I	I	I
	1130	Simm	786	1060	1140	1245	1		1		1	I

 $^{^{\}rm a}$ Final Test ADG = average daily gain during 112-day test $^{\rm b}$ Final Test WDA = weight per day of age of each bull from birth until last day of the test

 $^{^{\}rm c}$ Final Test Index = the sum of Final Test ADG and Final Test WDA $^{\rm d}$ Bulls were removed from the test prior to completion