

# **UF Station Report**

## **S-1064**

### **2015-2016**

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# Research Areas

**Objective 2: Meta-analyses of economically important traits of cow productivity and fertility to assess breed and production system combinations**

**Objective 4: Investigation of early cow-life performance (First four parities) affecting lifetime production in Brahman and Brahman-Angus cows**

# Activities

## Objective 2 Suggested Data Collection

(1) Breed of cow, (2) Sire ID/sire breed and dam ID/dam breed of cow, (3) cow birth date, (4) Mating information (natural or artificial insemination; single or multiple sires; number of cows per bull; season or insemination date(s)), (5) Predominant forage in pastures (fescue 0 = no; 1 = yes), (6) Sire/sire breed of calf, (7) Cow:bull ratio, (8) Body condition score (date and stage of production), (9) Palpation status (0 = non-pregnant; 1 = pregnant), (10) Calving status (0 = no; 1 = yes), (11) Weaning status (0 = no; 1 = yes), (12) Calving date (calving season, spring or fall), (13) Calving difficulty (1 = normal; 2 = easy pull; 3 = hard pull; 4 = caesarian section; 5 = abnormal presentation, note the abnormal presentation of calf), (14) Calf vigor issues (1 = normal; 2 = weak but nursed without assistance; 3 = weak and assisted to nurse; add any notes), (15) Calf birth weight, (16) Calf weaning date, (17) Calf weaning weight, (18) Cow temperament at calving, (19) Date of death and reason/notes for cow or her calf, and (20) Date of culling and reason/notes for cow and/or her calf leaving herd.

## Objective 4 Additional Data Collection

(1) Udder scores, (2) Ultrasound ribeye area, fat, percent intramuscular fat between 365 and 467 days of age, (3) Carcass and meat quality traits.

# Activities

## Data Collection

**Multibreed Angus-Brahman (MAB; 270 cows) and Brahman herds (BRA; 60 cows)**

- 1) Objectives 2 and 4 suggested phenotypic data
- 2) Expected breed composition of all MAB animals (calves, sires, dams)
- 3) Pedigree file (MAB + BRA)
- 4) Accumulated phenotypic data file (MAB + BRA; 1987 – Present; Unequal number of years of data per trait)
- 5) Genotypic data files (3k, 150k, 250k)

## Tissue Sample Collection

- 1) Blood samples from all calves and natural service sires (-80 Celsius)
- 2) Hair samples from all calves and natural service sires (room temperature)
- 3) Semen from all AI sires (-80 Celsius)

	A	B	C	D	E	F	G	H	I	J	T	U	V	W	X	Y	Z	AL	AM	AP	AQ	AR	AS	AT	BF	BG	BI	BM	BN	BO
	HERD	YEARSET	Calf	CALF Registrat ion Numbr	SHR	CG	AN	BR	CULDAT DZDATE	CUC RFD	SIRE	ACTUAL SIRE NUMBER	SIRE Registrati on Numbr	SG	AN	BR	SIRE NAME	DAM	DAM Registrat ion Numbr	DG	AN	BR	CULDAT	CUC	A.I. Group	A11DAT GNRH	A12DAT	NSIR	NSSIR ACTUAL NUMBER	NSSI Registr on Numbr
1	BRA	2016	2160301		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130318	927686	5	0	32			Heifers and O's	21215		307	3999307	92008
2	BRA	2016	2160302		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130305	927679	5	0	32			Heifers and O's	21215		307	3999307	92008
4	BRA	2016	2160303		1	5	0	32			309	3999309	864627	5	0	32	KCC 286	2110304	934830	5	0	32			Heifers and O's	21215		286	3109369	88949
5	BRA	2016	2160304		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130322	927687	5	0	32			Heifers and O's	21215		307	3999307	92008
6	BRA	2016	2160305		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130313	927685	5	0	32			Heifers and O's	21215	30315	307	3999307	92008
7	BRA	2016	2160306		1	5	0	32			248	3999248	816797	5	0	32	WALTER MANSO	2120137	932524	5	0	32			AI Cow Group 1	22615		311	2089803	87599
8	BRA	2016	2160307		1	5	0	32			297	3999297	907983	5	0	32	MR. V8 259/7	2110162	906028	5	0	32			AI Cow Group 1	22515		307	3999307	92008
9	BRA	2016	2160308		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2120075	934806	5	0	32			AI Cow Group 1	22615		311	2089803	87599
10	BRA	2016	2160309		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130323	927680	5	0	32			Heifers and O's	21215	30615	307	3999307	92008
11	BRA	2016	2160310		1	5	0	32			277	3999277	778115	5	0	32	SUNLAND	2130339	928480	5	0	32			Heifers and O's	21215	30215	307	3999307	92008
12	BRA	2016	2160311		1	5	0	32			309	3999309	864627	5	0	32	KCC 286	2120010	934808	5	0	32			AI Cow Group 1	22615		307	3999307	92008
13	BRA	2016	2160312		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130324	927688	5	0	32			Heifers and O's	21215	30415	307	3999307	92008
14	BRA	2016	2160313		1	5	0	32			309	3999309	864627	5	0	32	KCC 286	2090474	894370	5	0	32			AI Cow Group 1	22615		311	2089803	87599
15	BRA	2016	2160314		1	5	0	32			248	3999248	816797	5	0	32	WALTER MANSO	2130331	927689	5	0	32			Heifers and O's	21215	30515	307	3999307	92008
16	BRA	2016	2160315		1	5	0	32			277	3999277	778115	5	0	32	SUNLAND	2129104	908230	5	0	32			Heifers and O's		30715	286	3109369	88949
17	BRA	2016	2160316		1	5	0	32			308	3999308	920078	5	0	32	KCC 446	2130307	927693	5	0	32			Heifers and O's	21215	30815	307	3999307	92008
75	MAB	2016	3160001			6	20	12			272	3070006		2	18	14	307-0006	3080029		2	22	10			Heifers and O's	21215		289	3090067	
76	MAB	2016	3160002			4	10	22	111015		304	3080214		4	8	24	308-0214	3130097		4	12	20	11516	13	Heifers and O's	21215	30615	291	3100189	
77	MAB	2016	3160003		1	6	20	12			294	3999294		6	20	12	TWOKAYFOUR	3130003		6	20	12			Heifers and O's	21215		292	1119033	
78	MAB	2016	3160004			2	21	11			301	3999301		1	32	0	EMBLAZON	3130224		4	10	22			Heifers and O's	21215		271	1109074	
79	MAB	2016	3160005			3	14	18			272	3070006		2	18	14	307-0006	3130201		4	11	21			Heifers and O's	21215		289	3090067	
80	MAB	2016	3160006			1	26	6			302	3080011		2	23	9	UF 308-0011	3130043		1	30	2			Heifers and O's	21215		289	3090067	
81	MAB	2016	3160007			2	21	11			271	1109074		1	32	0	DISCOUNT	3130036		4	10	22			Heifers and O's	21215		271	1109074	
82	MAB	2016	3160008			4	9	23			307	3999307		5	0	32	KCC 468	3130234		3	18	14			Heifers and O's	21215		296	3129930	
83	MAB	2016	3160009		1	4	8	24			303	3080063		3	16	16	UF 308-0063	3130133		5	0	32			Heifers and O's	21215		290	3110021	
84	MAB	2016	3160010			2	23	9			292	1119033		6	20	12	UPDATE 314C	3130056		1	26	6			Heifers and O's	21115		292	1119033	
85	MAB	2016	3160011		1	2	23	9			302	3080011		2	23	9	UF 308-0011	3130235		2	23	9			Heifers and O's	21115		289	3090067	
86	MAB	2016	3160012			3	16	16			302	3080011		2	23	9	UF 308-0011	3130155		4	10	22			Heifers and O's	21215		289	3090067	
87	MAB	2016	3160013		1	2	22	10			270	3999270		1	32	0	BULLSEYE	3130089		4	11	21			Heifers and O's	21115		271	1109074	
88	MAB	2016	3160014			3	17	15	111715	7	290	3110021		3	16	16	311-0021	3070047		3	18	14	11516	13	AI Cow Group 1	22615		290	3110021	
89	MAB	2016	3160015			1	26	6			287	3999287		1	32	0	PLOWMAN	3130267		3	19	13			Heifers and O's	21215		271	1109074	
90	MAB	2016	3160016		1	6	20	12			293	3999293		6	20	12	REAL DEAL	3130211		6	20	12			Heifers and O's	21215		292	1119033	
91	MAB	2016	3160017			3	17	15			289	3090067		2	22	10	309-0067	3110232		4	12	20			Heifers and O's	21215		289	3090067	
92	MAB	2016	3160018		1	1	26	6			289	3090067		2	22	10	309-0067	3130019		1	30	2			Heifers and O's	21115		289	3090067	
93	MAB	2016	3160019			2	21	11			292	1119033		6	20	12	UPDATE 314C	3130125		2	22	10			Heifers and O's	21215		292	1119033	
94	MAB	2016	3160020			3	19	13			303	3080063		3	16	16	UF 308-0063	3130009		2	22	10			Heifers and O's	21315		290	3110021	

	A	B	C	CE	CL	CM	CN	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC				DG	DH	DI
	HERD	YEARSET	Calf	BDATE mmddyy	AIGLEN	GLA1	GLA2	DAM	Calf	CE	NC	Sex	SX	BWT	VIGOR	NURSE	SUR	DZDAT	RFD	Remarks	Date Castrated	Date Dehorned	DI NSX			
1																										
2	BRA	2016	2160301	112115	282	282	0	2130318	2160301	1	1	Female	2	53	1					Cow has small udder, watch!						
3	BRA	2016	2160302	112615	287	287	0	2130305	2160302	1	1	Female	2	68	1					Watch for vigor!						
4	BRA	2016	2160303	120615	297	297	0	2110304	2160303	1	1	Bull	1	78	1											
5	BRA	2016	2160304	120715	298	298	0	2130322	2160304	1	1	Bull	1	64	1					Calf cold & dopey, given vitamin injection						
6	BRA	2016	2160305	120815	280	299	280	2130313	2160305	1	1	Female	2	64	1											
7	BRA	2016	2160306	120915	286	286	0	2120137	2160306	1	1	Female	2	70	1											
8	BRA	2016	2160307	121115	289	289	0	2110162	2160307	1	1	Female	2	64	1											
9	BRA	2016	2160308	121215	289	289	0	2120075	2160308	1	1	Female	2	64	1											
10	BRA	2016	2160309	121215	281	303	281	2130323	2160309	1	1	Bull	1	66	1											
11	BRA	2016	2160310	121615	289	307	289	2130339	2160310	1	1	Female	2	86	1											
12	BRA	2016	2160311	121615	293	293	0	2120010	2160311	1	1	Bull	1	82	1											
13	BRA	2016	2160312	121715	288	308	288	2130324	2160312	1	1	Female	2	62	1											
14	BRA	2016	2160313	122115	298	298	0	2090474	2160313	1	1	Bull	1	84	1											
15	BRA	2016	2160314	122215	292	313	292	2130331	2160314	1	1	Bull	1	60	1											
16	BRA	2016	2160315	122515	293	0	293	2129104	2160315	1	1	Bull	1	82	1											
17	BRA	2016	2160316	122515	292	316	292	2130307	2160316	1	1	Bull	1	68	1											
75	MAB	2016	3160001	110715	268	268	0	3080029	3160001	1	1	Female	2	66	1					Septicemia at 2 days old						
76	MAB	2016	3160002	110915	270	270	248	3130097	3160002	1	1	Female	2	40	4		3	111015	7	Stillborn, premature						
77	MAB	2016	3160003	111215	273	273	0	3130003	3160003	1	1	Female	2	66	1											
78	MAB	2016	3160004	111315	274	274	0	3130224	3160004	1	1	Female	2	60	1											
79	MAB	2016	3160005	111315	274	274	0	3130201	3160005	1	1	Female	2	70	1											
80	MAB	2016	3160006	111515	276	276	0	3130043	3160006	1	1	Female	2	70	1											
81	MAB	2016	3160007	111515	276	276	0	3130036	3160007	1	1	Female	2	68	1											
82	MAB	2016	3160008	111515	276	276	0	3130234	3160008	1	1	Bull	1	66	3	2				Calf weak & shaking, taken to pen, broke leg in pasture 11/30/15						
83	MAB	2016	3160009	111615	277	277	0	3130133	3160009	1	1	Female	2	64	1											
84	MAB	2016	3160010	111615	278	278	0	3130056	3160010	1	1	Female	2	80	1											
85	MAB	2016	3160011	111715	279	279	0	3130235	3160011	1	1	Bull	1	60	1											
86	MAB	2016	3160012	111715	278	278	0	3130155	3160012	1	1	Female	2	82	1					Very good calf, extra vigorous						
87	MAB	2016	3160013	111715	279	279	0	3130089	3160013	1	1	Bull	1	56	1											
88	MAB	2016	3160014	111715	264	264	0	3070047	3160014	1	1	Female	2	58	4		3	111715	7	Found dead beside cow in pasture						
89	MAB	2016	3160015	111815	279	279	0	3130267	3160015	1	1	Female	2	66	1											
90	MAB	2016	3160016	111815	279	279	0	3130211	3160016	1	1	Female	2	72	1					Calf not licked clean- watch for nursing						
91	MAB	2016	3160017	111815	279	279	0	3110232	3160017	1	1	Female	2	76	1											
92	MAB	2016	3160018	111915	281	281	0	3130019	3160018	1	1	Female	2	76	1											
93	MAB	2016	3160019	112015	281	281	0	3130125	3160019	1	1	Female	2	72	1											
94	MAB	2016	3160020	112015	280	280	0	3130009	3160020	1	1	Bull	1	76	1											

MAB\_BRA\_RTSGrowthFEFCarcass\_Workfile\_April-12-2016\_aaa.xlsm - Excel

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	A	B	C	E	F	G	M	N	O	P	T	V	W	X	CC	CD	CG	CH	CK	CL	CN	CO	CP	FJ	FK	FL	FM	FN	GA	GB	GC	GE	GF
	Source	YEARSET	CALF NUMBER	CG	AN CALF	BR CALF	SIRE	SG	AN SIRE	BR SIRE	DAM	DG	AN DAM	BR DAM	DATE1	WT1	DATE3	WT3	DATE5	WT5	WDATE	WWT	10HH(in) 570-CK	Date Ultrasou nd DU	DU WT	DU UREA (sqin)	DU UBF (in)	DU UPIMF (%)	DATE9.1 BRU_RT S	WT BRU_RTS	CS BRU_ RTS	PalpUlt snd RTS	Age at RTS measurex
334	BRA	2015	2150301	5	0	32	3999282	5	0	32	2120057	5	0	32																			
335	BRA	2015	2150302	5	0	32	3999282	5	0	32	2120075	5	0	32	31015	290	52015	460	71515	545	81815	585	46.25	121515	790	2.14	8.61	0.14	11316	805	5	2	416
336	BRA	2015	2150303	5	0	32	3999284	5	0	32	2120137	5	0	32																			
337	BRA	2015	2150304	5	0	32	3999230	5	0	32	2120003	5	0	32	31015	225	52015	395	71515	480	81815	545	45	121515	705	4.41	9.55	0.13	11316	710	5	2	413
338	BRA	2015	2150305	5	0	32	3069427	5	0	32	2120055	5	0	32	31015	260	52015	435	71515	535	81115	585	45.5	121515	835	10.43	0.11	1.63					
339	BRA	2015	2150306	5	0	32	3999284	5	0	32	2120090	5	0	32	31015	275	52015	445	71515	555	81115	615	46	121515	885	10.46	0.14	1.4					
340	BRA	2015	2150307	5	0	32	3999282	5	0	32	2120132	5	0	32	31015	225	50615	375	71615	540	81115	600	47.5	121515	780	8.39	0.07	1.4					
341	BRA	2015	2150308	5	0	32	2120125	5	0	32	2120112	5	0	32	31015	215	52015	245	71515	445	81815	490	44	121515	690	3.54	6.07	0.08	11316	605	5	2	407
342	BRA	2015	2150309	5	0	32	3999218	5	0	32	2120073	5	0	32	31015	230	52015	395	71515	510	81115	590	46	121515	810	8.94	0.12	2.11					
343	BRA	2015	2150310	5	0	32	2120125	5	0	32	2120038	5	0	32	31015	200	52015	365	71515	490	81815	485	45	121515	640	1.83	5.73	0.12	11316	630	5	2	404
344	BRA	2015	2150311	5	0	32	3999230	5	0	32	2120159	5	0	32	31015	265	52015	405	71515	520	81815	580	47										
345	BRA	2015	2150312	5	0	32	3999282	5	0	32	2020452	5	0	32																			
346	BRA	2015	2150313	5	0	32	2120125	5	0	32	2080388	5	0	32	31015	225	52015	395	71515	490	81115	555	46	121515	770	8.85	0.12	1.73					
347	BRA	2015	2150314	5	0	32	3069427	5	0	32	2120092	5	0	32	31015	205	52015	335	71515	410	81815	470	47.75										
348	BRA	2015	2150315	5	0	32	3999282	5	0	32	2120133	5	0	32	31015	215	52015	400	71515	515	81815	540	45	121515	760	3.84	8.17	0.14	11316	615	5	3	392
349	BRA	2015	2150316	5	0	32	3999297	5	0	32	2120010	5	0	32	31015	230	52015	375	71515	500	81815	535	43.5	121515	650	3.45	8.44	0.12	11316	680	5	4	390
350	BRA	2015	2150317	5	0	32	3999282	5	0	32	2120048	5	0	32	31015	220	52015	370	71515	485	81815	555	47	121515	670	2.27	7.68	0.2	11316	655	5	3	389
351	BRA	2015	2150318	5	0	32	3999078	5	0	32	2120121	5	0	32	31015	175	52015	295	71515	420	81815	460	43.75										
352	BRA	2015	2150319	5	0	32	3999284	5	0	32	2120004	5	0	32	31015	205	52015	380	71515	480	81815	550	44	121515	630	3.19	6.53	0.16	11316	665	5	2	388
353	BRA	2015	2150320	5	0	32	3999078	5	0	32	2120016	5	0	32	31015	230	52015	415	71515	465	81115	515	46	121515	750	10.33	0.14	3.73					
354	BRA	2015	2150321	5	0	32	2120125	5	0	32	2120014	5	0	32	31015	185	52015	275	71515	390	81815	450	42.5										
355	BRA	2015	2150322	5	0	32	3999284	5	0	32	2110162	5	0	32	31015	185	52015	325	71515	435				121615	615	3.11	7.97	0.19					
356	BRA	2015	2150323	5	0	32	3999282	5	0	32	2120152	5	0	32	31015	240	52015	405	71515	560	81115	615	46.5	121515	880	11.19	0.12	2.79					
357	BRA	2015	2150324	5	0	32	3999284	5	0	32	2120007	5	0	32																			
358	BRA	2015	2150325	5	0	32		5	0	32	2110233	5	0	32	31015	125	52015	285	71515	295	81815	325	39										
359	BRA	2015	2150326	5	0	32	3999284	5	0	32	2120131	5	0	32	31015	180	52015	325	71515	445	81115	505	45.5	121515	670	7.85	0.11	2.47					
360	BRA	2015	2150327	5	0	32	3999230	5	0	32	2120058	5	0	32	31015	150	52015	285	71515	370	81815	415	43.75	121515	575	2.3	5.99	0.06	11316	510	5	2	379
361	BRA	2015	2150328	5	0	32	3999297	5	0	32	2090474	5	0	32	31015	175	52015	340	71515	455	81815	505	44	121515	625	2.94	7.07	0.21	11316	625	5	2	379
362	BRA	2015	2150329	5	0	32	3999078	5	0	32	2070381	5	0	32	31015	155	52015	275	71515	385				121615	580	2.47	7.07	0.1					
363	BRA	2015	2150330	5	0	32		5	0	32	2120099	5	0	32	31015	150	52015	310	71515	425	81115	460	44.5	121515	690	7.76	0.09	2.39					

SAS\_GFEFileGFEFileMAB\_BRAPedNewMABPedBRA\_PedigreeMAB 3k Genotypes

Ready323 of 6870 records found

100%



	A	B	C	GQ	GR	GS	GT	GU	GV	GW	GX	GY	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	
	Source	YEAR	CALF NUMBER	Hump Ht cm	Arrival Feedlot Date	Arrival Feedlot WT	Depart ure Feedlot Date	Depart ure Feedlot WT	Slaughter Date	Slaugh ter WT	hcv lb	Dressin g %	Lean Matu rity	Bone Maturi ty	Overall Maturit y or Aver	Marblin g	Fat Over Ribeye in	Ribeye Area in*in	Perce nt Kidne y	Yield Grade	Quality Grade	Percent Thaw Loss d14	Percent Cooking Loss d14	Degree of Donene ss d1	Warner Bratzler Shear Force	Juicin ess	Flavor	Tender ness	CT	Off flavor	Color	Textu re	Firmn ess	Lcol	Acol	Bcol	
1																																					
301	BRA	2014	2140320	16	121014	670	81315	1115	81415	1115	673	60.4	160	130	140	390	0.6	10.2		3.8	590	0.3	25.5	3	3.9	5.6	6.4	5	6.2	5.5	5	4	3	29.2	28	24.65	
303	BRA	2014	2140322	14	121014	545	81315	1115	81415	1115	680	59.2	150	130	140	380	0.45	10.8		3.3	580	0.6	19.0	3	4.2	4.9	6.5	5.5	6.3	5.5	3	4	3	36.3	23	21.32	
306	BRA	2014	2140325	14	121014	650	81315	1115	81415	1115	681	61.1	130	140	140	320	0.8	9.5		4.5	520	0.9	25.5	3	4.3	4.1	5.8	4.9	5.5	5.8	2	3	2	40.2	25	24.66	
320	BRA	2014	2140339	13	121014	460	81315	1035	81415	1035	608	58.7	160	160	160	320	0.4	10.3		3.1	520	1.2	18.8	3	4.3	5.4	5.5	3.8	4.1	5.8	4	4	3	37.8	21	19.59	
323	BRA	2014	2140342	9	121014	555	72915	1180	73115	1180	676	57.3	120	130	130	320	0.4	11.6		2.9	520	4.4	17.6	3	3.7	4.2	4.8	5.2	5.8	5.3	2	4	3	38.3	24	20.2	
6371	MAB	2014	3140007	7.5	121014	595	72915	975	73115	975	562	57.6	130	130	130	510	0.4	9.7		3.5	637.0	2.8	23.9	3	3.3	5.9	6	6.4	6.5	5.2	3	3	1	36.4	26	22.16	
6372	MAB	2014	3140008	6.8	121014	800	62215	1305	62315	1305	743	56.9	150	130	140	550	0.5	12.8		3.8	650.0	0.6	21.9	3	4.8	5.9	6.4	6.1	6.3	5.7	4	3	2	39.3	21	19.4	
6373	MAB	2014	3140009	5.8	121014	930	62215	1360	62315	1360	794	58.4	140	140	140	400	0.6	11.6		3.4	600.0	0.3	29.7	2	4.2	5.9	5.7	5.6	6.9	5.4	3	3	2	35.7	25	22.49	
6379	MAB	2014	3140015	5	121014	605	62915	1210	63015	1210	669	55.3	140	140	140	390	0.3	11.1	2.5	3	590.0	0.8	20.9	3	3.7	5.5	5.6	6.1	6.5	5.9	3	3	1	42.8	29	11.93	
6381	MAB	2014	3140017	11	121014	815	60815	1285	60915	1285	723	56.3			130	350	0.3	12.7	1.5	3	550.0	0.5	24.0	2	4.6	4.8	6	5.4	5.3	5.7	2	3	3	44.4	18	14.68	
6382	MAB	2014	3140018	6.8	121014	725	62215	1175	62315	1175	692	58.9	120	130	130	360	0.6	10.7		3.8	560.0	0.4	19.5	3	4.9	4.5	5.4	4.7	5.8	5.4	2	3	3	38.8	22	21.51	
6383	MAB	2014	3140019	7.5	121014	775	80315	1315	80415	1315	794	60.4	160	150	150	450	0.5	11.2	3.5	3.9	617.0	1.7	18.7	3	4.1	5.1	6.3	5	5.5	5.9	3	3	3	38.9	25	21.13	
6384	MAB	2014	3140020	20	121014	655	81315	1105	81415	1105	650	58.8	130	140	140	300	0.55	9.5		3.9	500.0	0.1	21.5	3	4.3	5.8	5.6	5.5	5.9	5.3	3	3	2	31.6	28	25.34	
6386	MAB	2014	3140022	10.5	121014	825	60815	1215	60915	1215	710	58.4			130	430	0.5	11.8	2.0	3.2	610.0	0.2	18.9	3	4.6	4.6	6	3.8	4.1	5.4	4	3	2	41.3	20	15.28	
6390	MAB	2014	3140026	8	121014	705	62915	1165	63015	1165	673	57.8	160	140	150	330	0.2	13.1	2.0	1.9	530.0	0.4	21.8	3	4.5	5.4	5.9	6.1	6.3	5.5	4	4	1	40.7	27	10.62	
6394	MAB	2014	3140030	5.2	121014	695	62215	1200	62315	1200	672	56	120	130	130	540	0.5	11.1		3.3	647.0	0.6	22.0	3	4.2	4.4	5.6	5	5.7	5.9	2	3	3	45.1	21	21.9	
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6401	MAB	2014	3140037	8	121014	750	62915	1295	63015	1295	767	59.2	140	140	140	500	0.6	12.2	2.5	3.5	633.0	0.2	24.5	3	4.5	5.2	6.6	5.3	6.4	5.8	3	4	2	45.1	30	13.09	
6410	MAB	2014	3140046	6	121014	685	62915	1315	63015	1315	755	57.4	130	1130	130	360	0.5	14.8	2.5	2.3	560.0	0.6	23.4	3	4.0	5.5	6.1	5.9	6.5	6	3	3	1	43.9	31	13.44	
6411	MAB	2014	3140047	7	121014	745	72915	1160	73115	1160	700	60.3	130	160	150	590	0.9	11.7		4	663.0	1.9	20.0	3	4.0	5.6	6.2	6.5	6.3	5.6	3	3	1	32.4	25	20.63	
6414	MAB	2014	3140050	7	121014	695	80315	1340	80415	1340	800	59.7	150	140	140	310	0.35	13.5	2.0	2.6	510.0	0.8	33.3	3	5.0	4.8	5.7	4.5	4.6	5.7	3	2	2	41.5	25	22.23	
6417	MAB	2014	3140053	5	121014	810	62215	1255	62315	1255	724	57.7	140	140	140	610	0.9	11.4		4.3	670.0	0.5	25.4	3	3.6	5	6.1	6.3	7.2	6	3	3	2	37.1	25	23.38	
6422	MAB	2014	3140058	14	121014	760	72915	1175	73115	1175	716	60.9	140	140	140	310	0.5	10.5		3.7	510.0	0.6	24.1	3	4.1	3.6	5.3	4.1	4.1	5.7	3	4	3	35.9	26	22.12	
6430	MAB	2014	3140066	7	121014	780	72915	1190	73115	1190	708	59.5	130	130	130	320	0.7	11.2		3.8	520.0	1.2	23.0	3	4.2	4.9	5.8	6.4	6.9	5.4	3	1	1	38.6	27	22.88	
6431	MAB	2014	3140067	7.7	121014	585	62215	1140	62315	1140	647	56.8	120	120	120	390	0.45	11.6		2.9	590.0	0.4	23.3	3	3.6	4.3	5.5	5.7	6.9	5.4	2	3	3	38.9	20	19.22	
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6436	MAB	2014	3140072	8	121014	710	72915	1105	73115	1105	656	59.4	140	110	130	340	0.4	11		3.1	540.0	2.0	23.7	3	4.2	4.3	5.5	5.5	6	5.4	3	3	1	33.8	25	19.61	
6438	MAB	2014	3140074	8	121014	835	62215	1360	62315	1360	769	56.5	120	130		130	300	0.5	12.7		3.3	500.0	0.2	17.9	3	4.8	5	6.5	5.6	6.5	5.8	2	4	5	39.5	24	23.29
6439	MAB	2014	3140075	7.5	121014	885	60815	1400	60915	1400	786	56.1			130	510	0.8	12.5	2.5	4	637.0	0.2	23.8	3	3.6	5.5	5.5	5.7	5.7	5.5	2	2	2	41	22	16.05	
6442	MAB	2014	3140078	8	121014	885	62215	1410	62315	1410	843	58.8	130	130		130	390	0.6	15.4		2.9	590.0	0.3	24.2	3	3.8	5.3	5.5	5.2	5.9	6	3	2	1	38.6	23	22.32



# Research

- 1) Genomic-polygenic analysis of heifers from the MAB and Brahman herds for yearling weight, reproductive tract score, age at first calving, and first calving interval
- 2) Genomic-polygenic analysis of animals from the MAB and Brahman herds for yearling weight direct and maternal, ultrasound ribeye area, ultrasound backfat, and ultrasound marbling
- 3) Genomic-polygenic analysis of animals from the MAB and Brahman herds for birth weight direct and maternal, weaning weight direct and maternal, postweaning gain direct, ultrasound ribeye area, ultrasound backfat, and ultrasound marbling
- 4) Genomic-polygenic analysis of animals from the MAB and Brahman herds for 9 Ultrasound and Carcass traits [UYW, UREA, UBF, UMAR, SLW, HCW, REA, FAT, and MAR]
- 5) FORTRAN software for editing of phenotypes, genotypes, and pedigree data and construction of input data files for imputation (Findhap2, 3, 4; FImpute) and for genomic-polygenic evaluation (BLUPF90, GS3, QXPAK)
- 6) SAS programs for editing, statistical description, and mixed model analysis of feed intake, growth, ultrasound, carcass, and meat palatability traits in the MAB and Brahman populations

# Genomic-polygenic analysis of heifers from the MAB and Brahman herds for yearling weight, reproductive tract score, age at first calving, and first calving interval

## UF Multibreed Angus-Brahman & Brahman Herds

[1,758 calves, 125 sires, 701 dams]

BLUPF90

Genomic-polygenic (GPM) and Polygenic models (PM)

Similar estimates of genetic parameters (GPM somewhat higher than PM)

Similar rankings (rank correlations = 0.91 to 0.95)

In general, Brahman had

Lower EBV for Yearling Wt

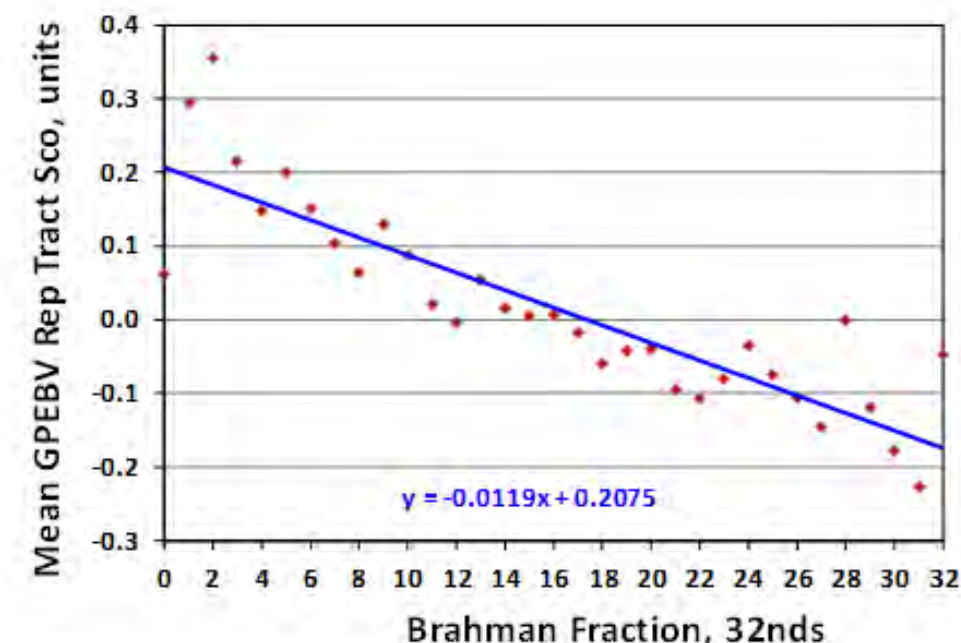
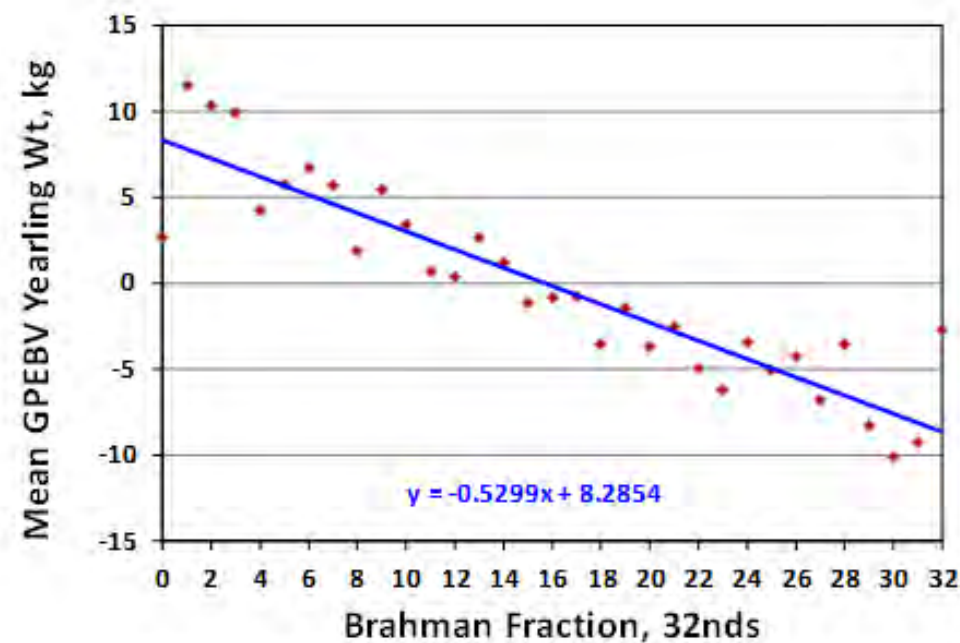
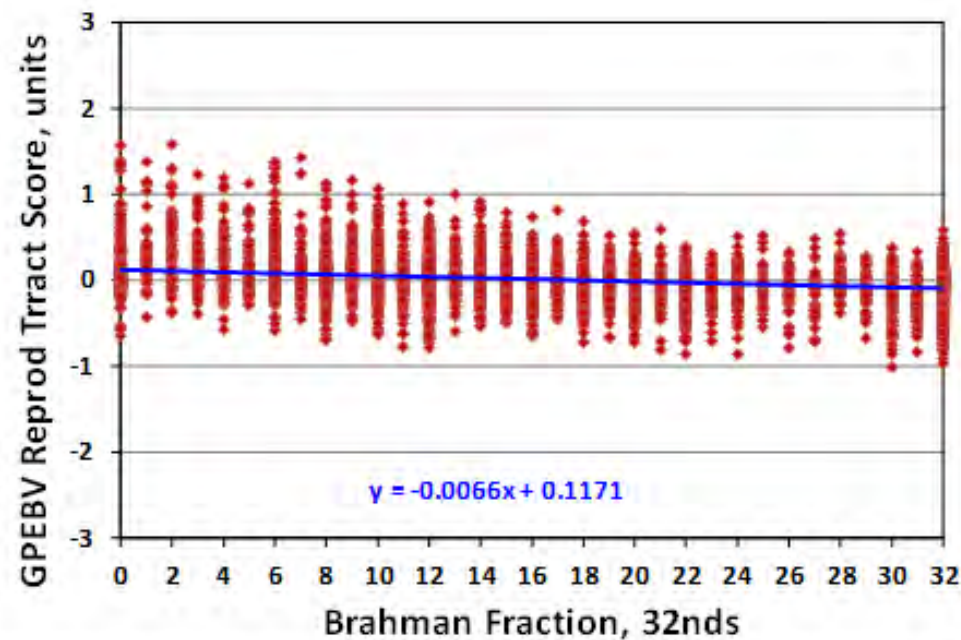
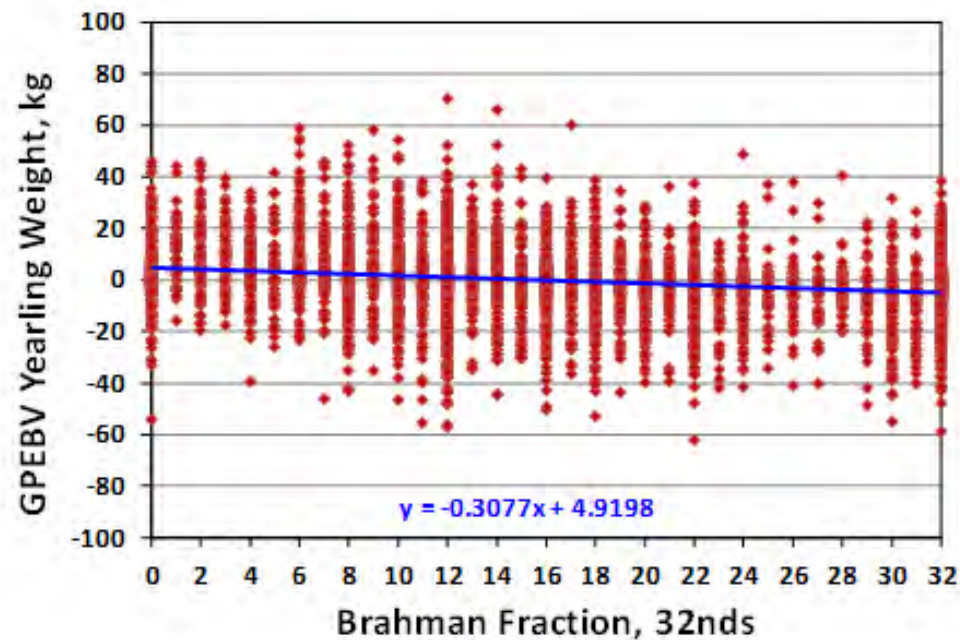
Lower EBV for Reproductive Tract Score

Higher EBV for Age at First Calving

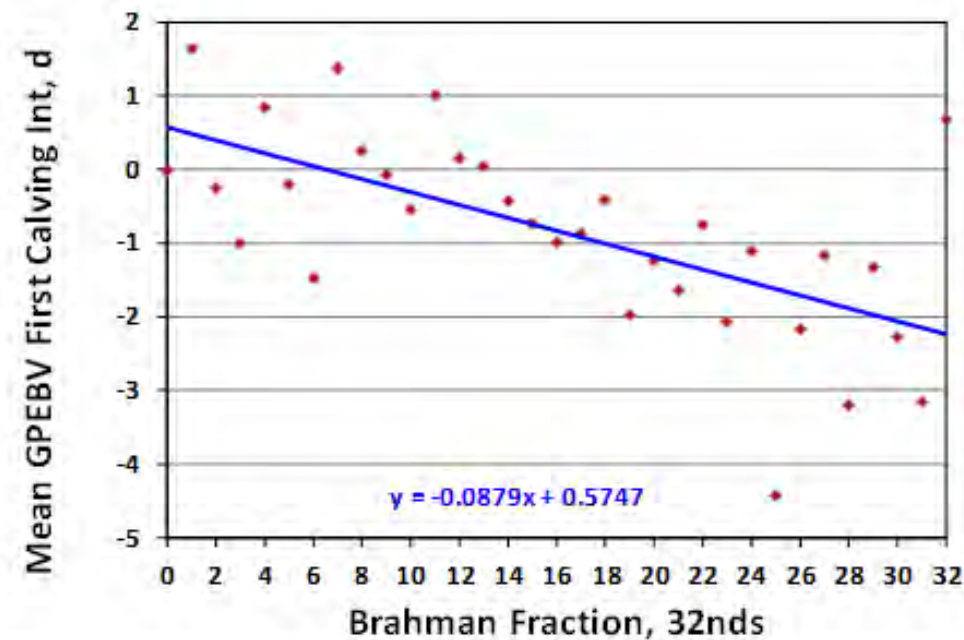
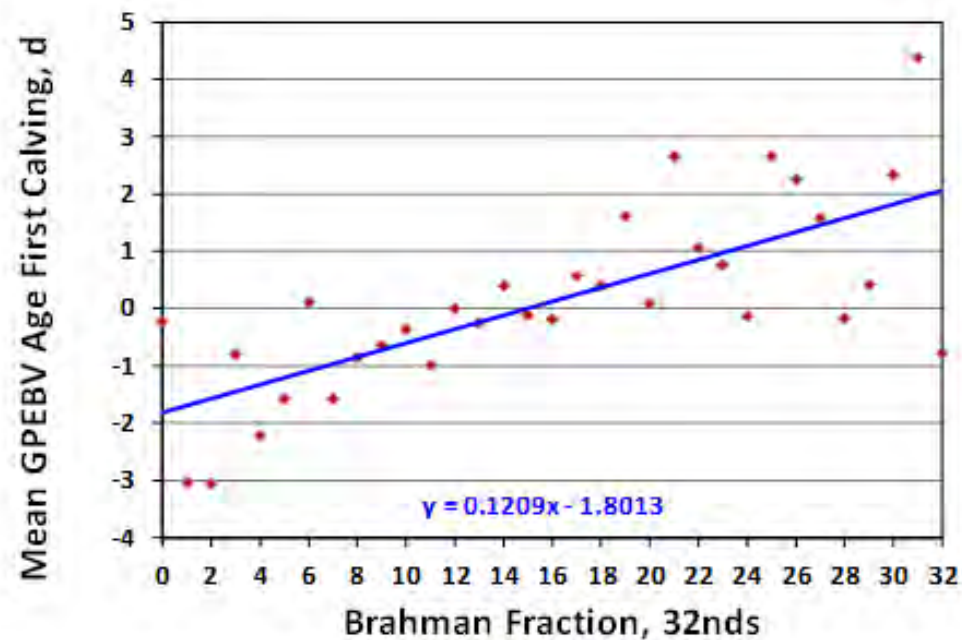
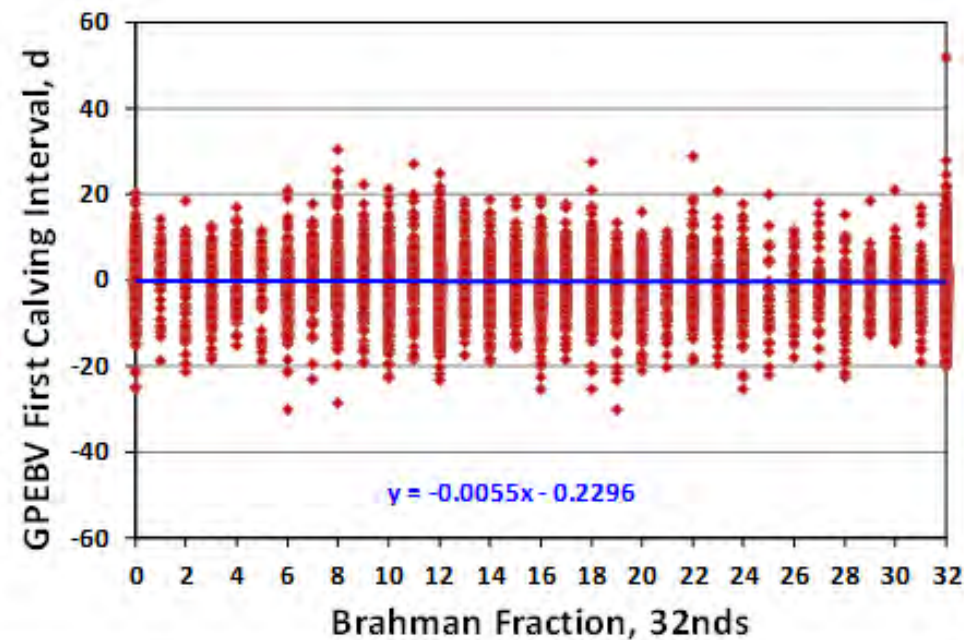
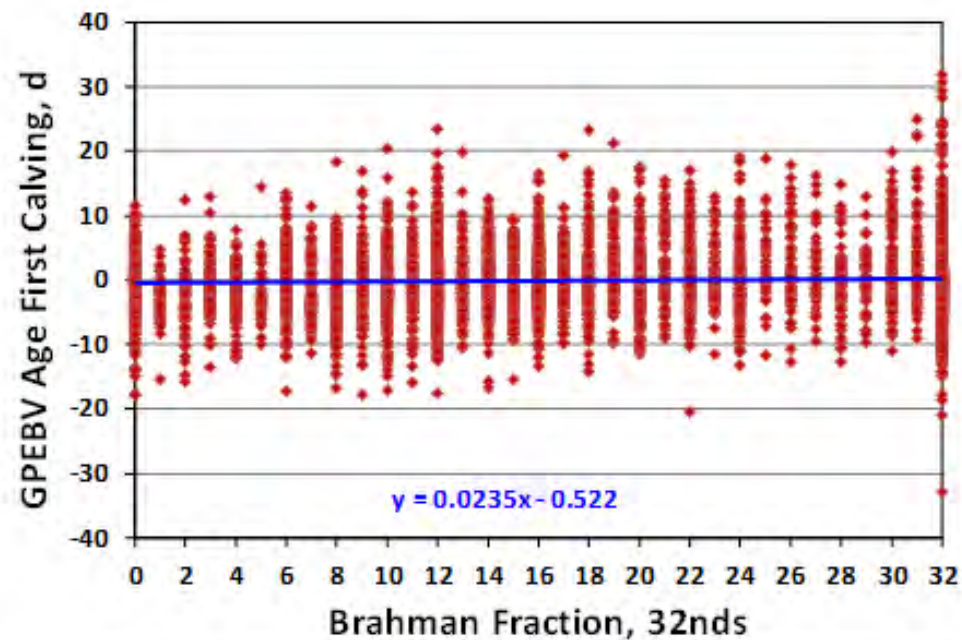
Lower EBV for First Calving Interval

Than Angus

Heifers with higher Brahman percentages tended to be lighter and less mature as yearlings, older at first calving, and have shorter FCI than heifers with higher Angus percentages  
(Perhaps due to estrous synchronization, AI, and 60 d NS period)







# Genomic-polygenic analysis of animals from the MAB and Brahman herds for BW and WW Direct and Maternal, GW Direct, and Ultrasound Ribeye area, Backfat, and Marbling

## UF Multibreed Angus-Brahman & Brahman Herds

[1,758 calves, 125 sires, 701 dams]

### Genomic-polygenic (GPM) and Polygenic models (PM)

Similar estimates of genetic parameters (GPM  $h^2$  somewhat higher than PM  $h^2$ )

### Heritabilities

BWD = 0.19; WWD = 0.61; GWD = 0.31; BWM = 0.12; WWM = 0.13

UREA = 0.50; UFAT = 0.04; UMAR = 0.05

### Additive Genetic Correlations

BWD positively correlated with WWD (med high)

BWD, WWD negatively correlated with BWM, WWM, GWD (med high)

BWD, WWD, GWD positively correlated with UREA and UFAT (med high)

BWD, WWD, GWD negatively correlated with UMAR (med)

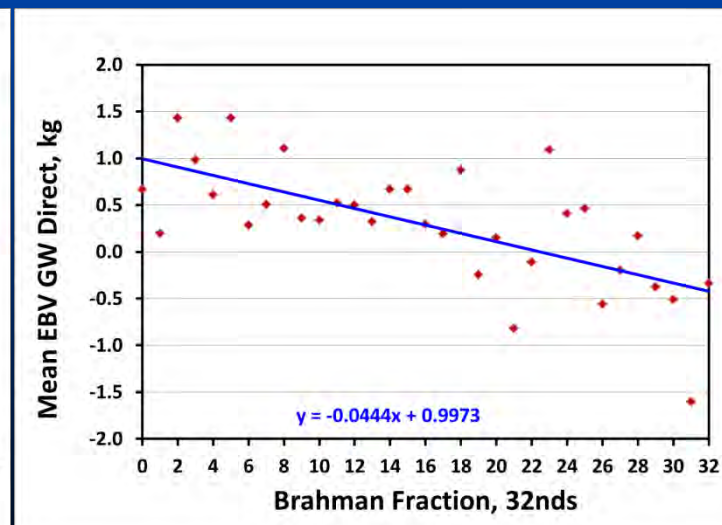
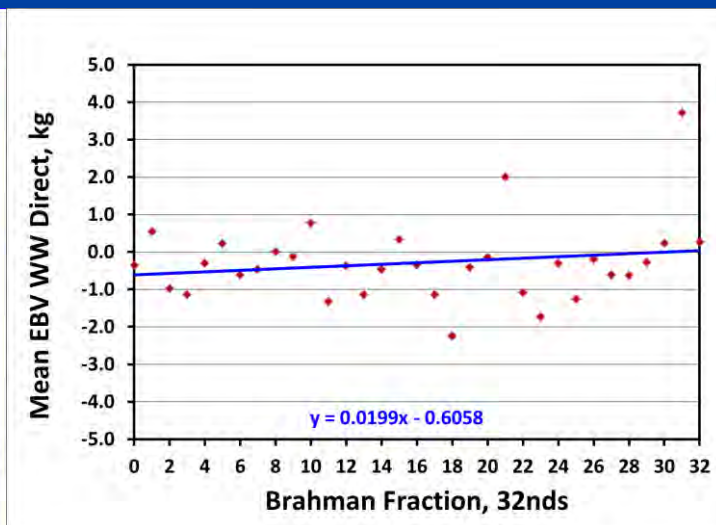
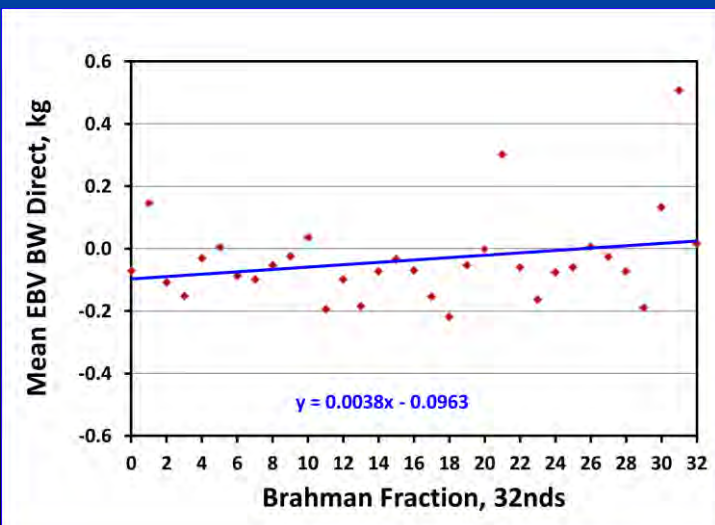
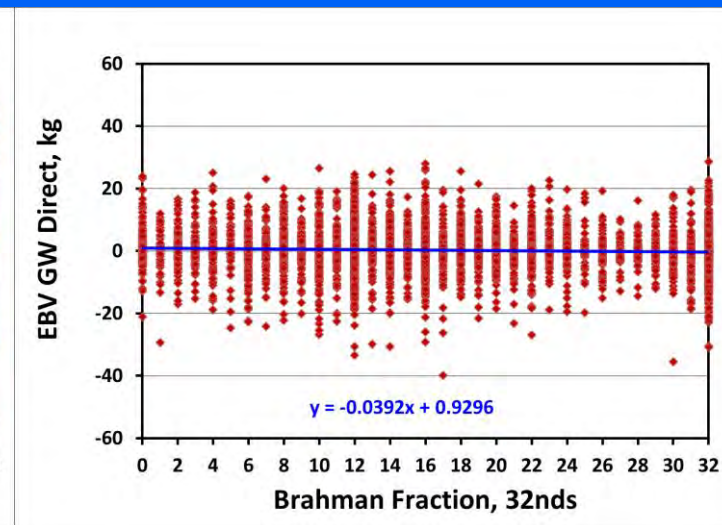
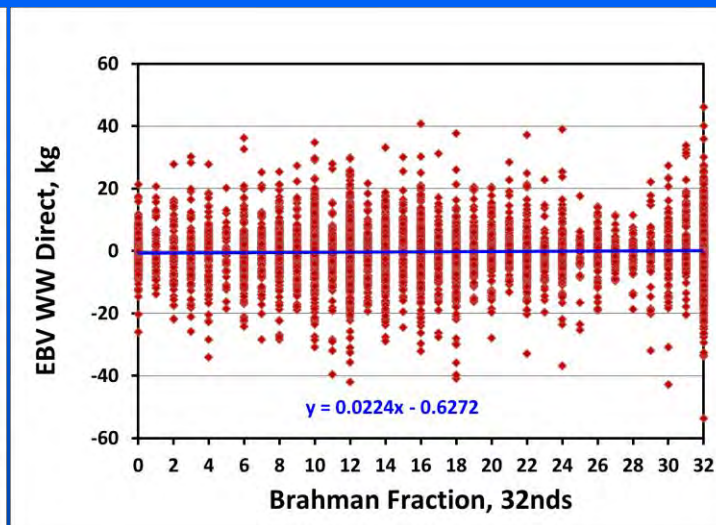
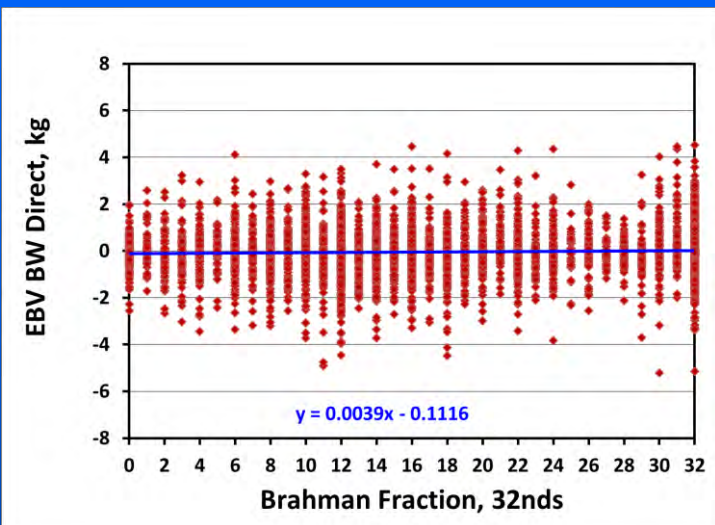
BWM, WWM negatively correlated with UREA and UFAT (low med)

BWM, WWM positively correlated with UMAR (low)

UREA positively correlated with UFAT (med high)

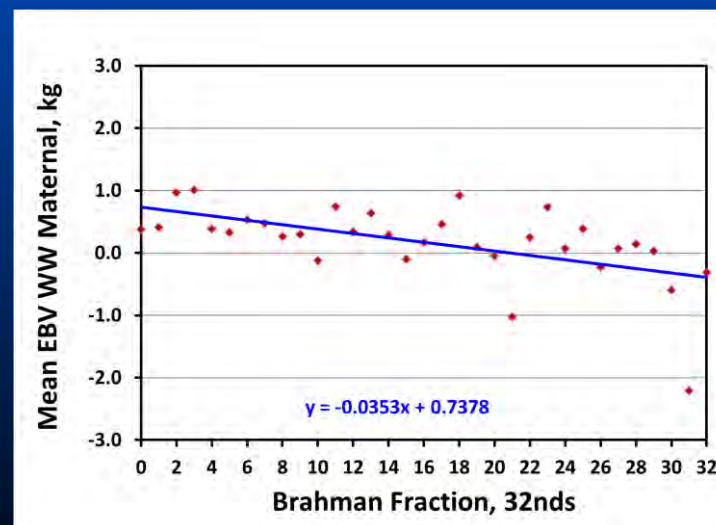
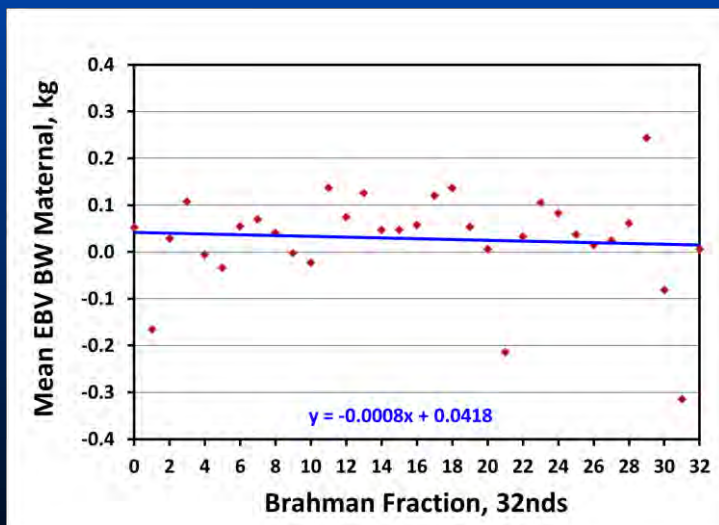
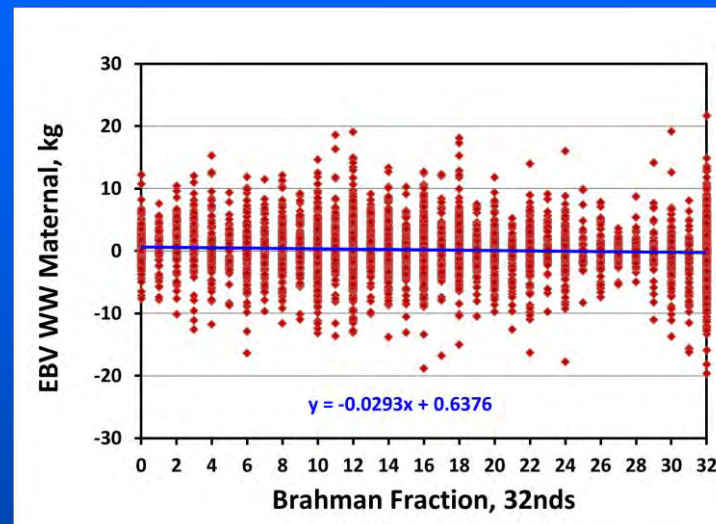
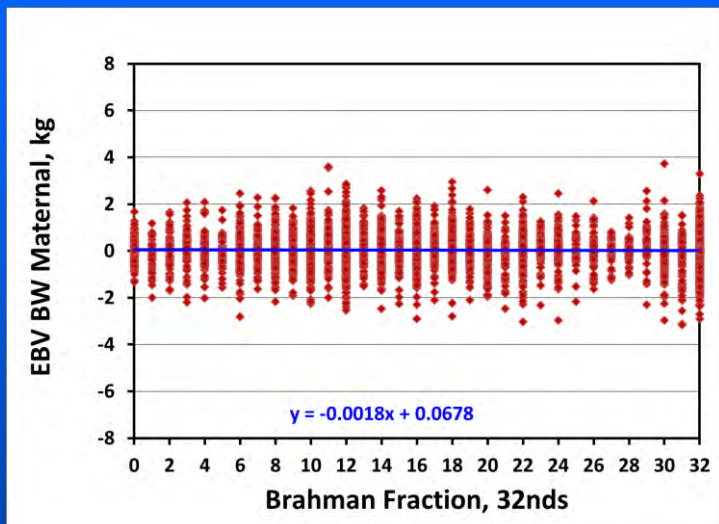
UREA, UFAT negatively correlated with UMAR (med high)

# GPEBV Direct Growth Traits

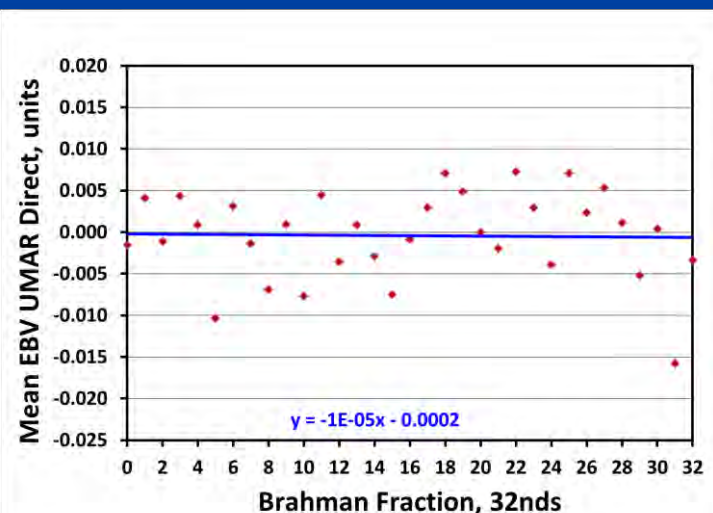
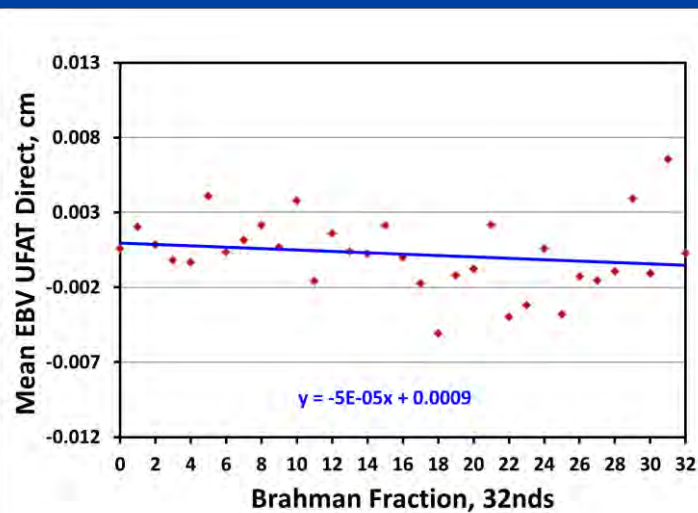
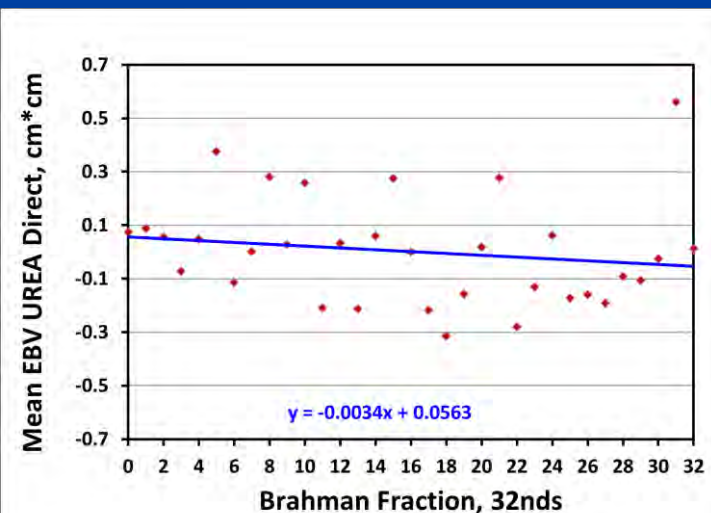
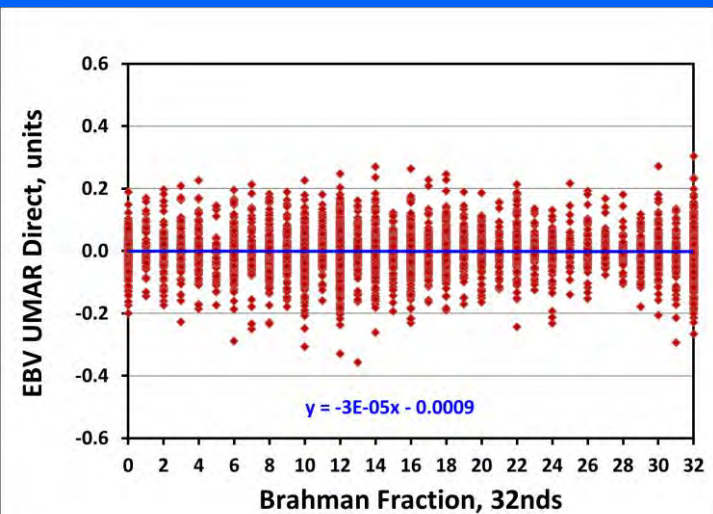
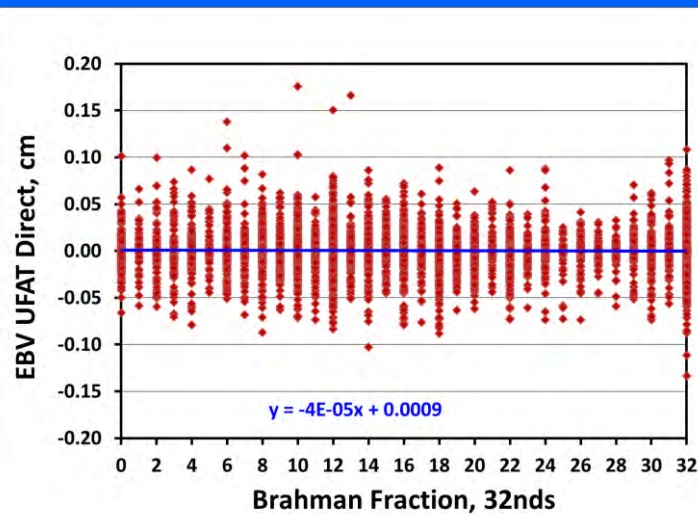
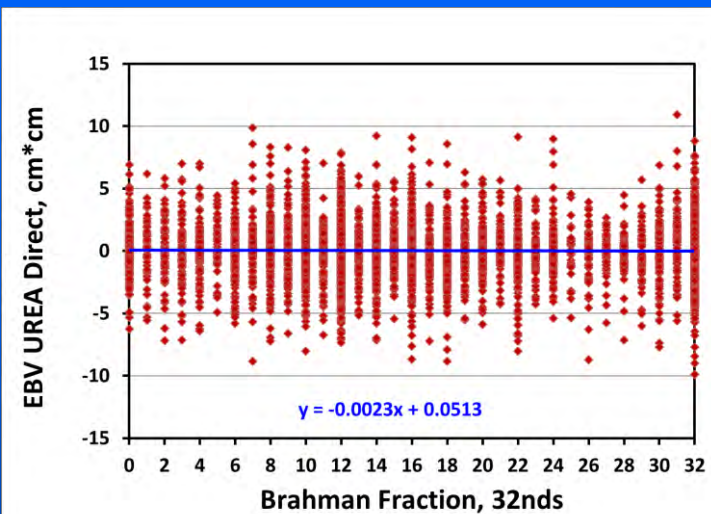




# GPEBV Maternal Growth Traits



# GPEBV Direct Ultrasound Traits



# Genomic-polygenic analysis of animals from the MAB and Brahman herds for 9 Ultrasound and Carcass traits [UYW, UREA, UBF, UMAR, SLW, HCW, REA, FAT, and MAR]

## UF Multibreed Angus-Brahman & Brahman Herds

[1,758 calves, 125 sires, 701 dams]

### Genomic-polygenic (GPM) and Polygenic models (PM)

Similar estimates of genetic parameters (GPM  $h^2$  somewhat higher than PM  $h^2$ )

### Heritabilities

UYW = 0.23; UREA = 0.35; UFAT = 0.04; UMAR = 0.08  
SLW = 0.44; HCW = 0.55; REA = 0.55; FAT = 0.18; MAR = 0.31

### Additive Genetic Correlations

UYW, UREA positively correlated with all traits, except UMAR (med high)

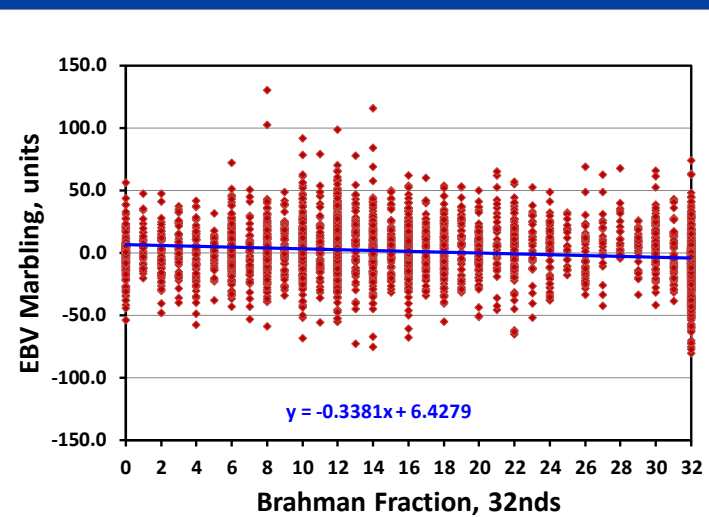
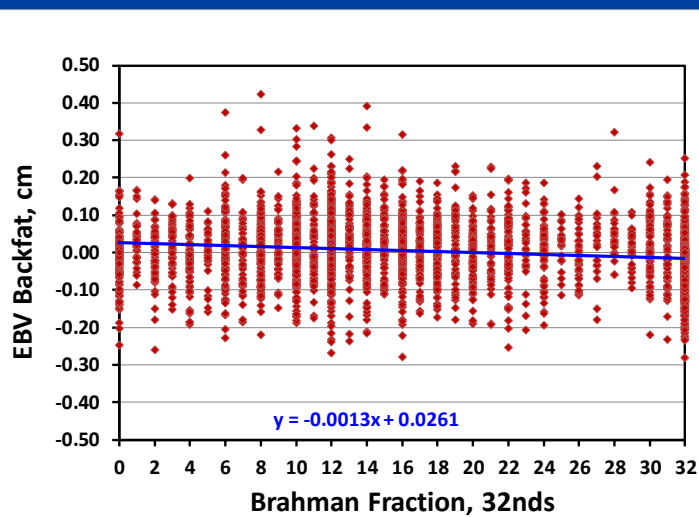
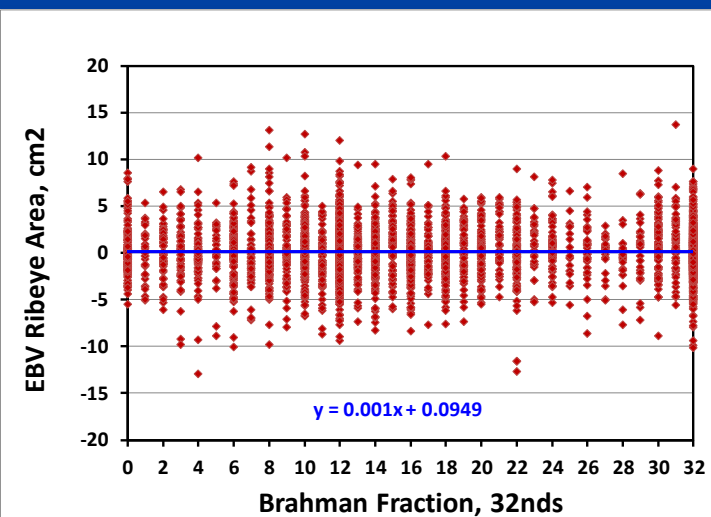
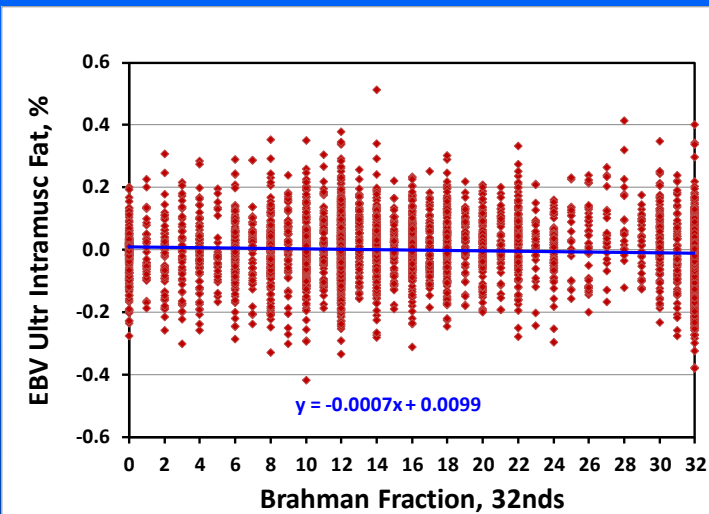
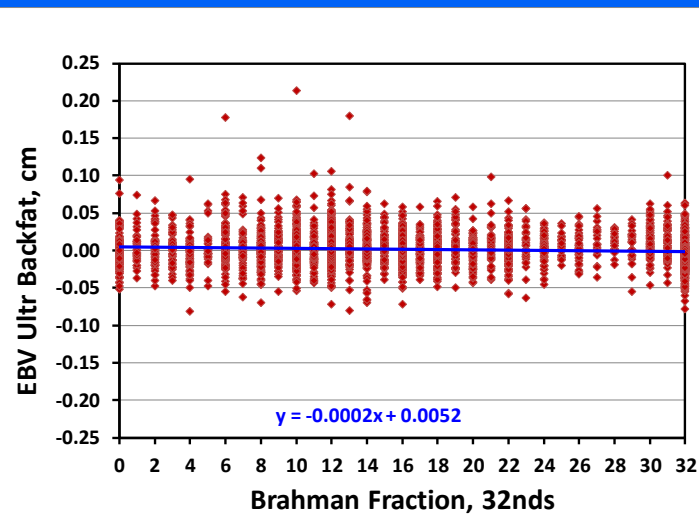
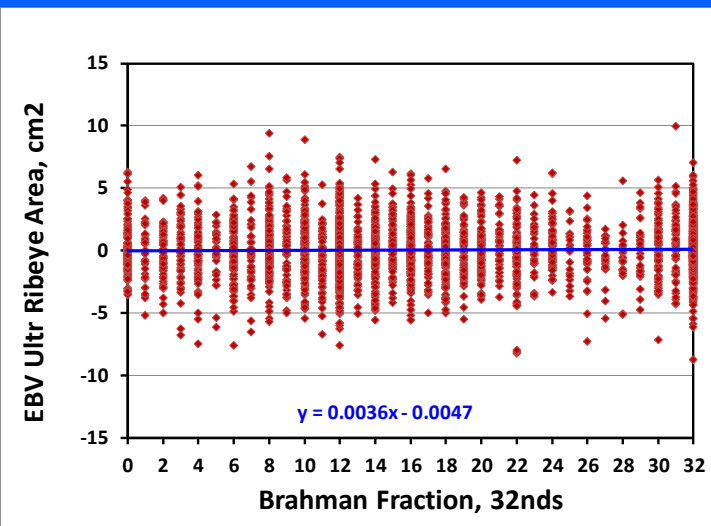
UFAT positively correlated with all traits (low high)

UMAR negatively correlated with all traits except FAT, MAR (low high)

UYW, UREA, UFAT positively correlated with SLW and all carcass traits (med high)

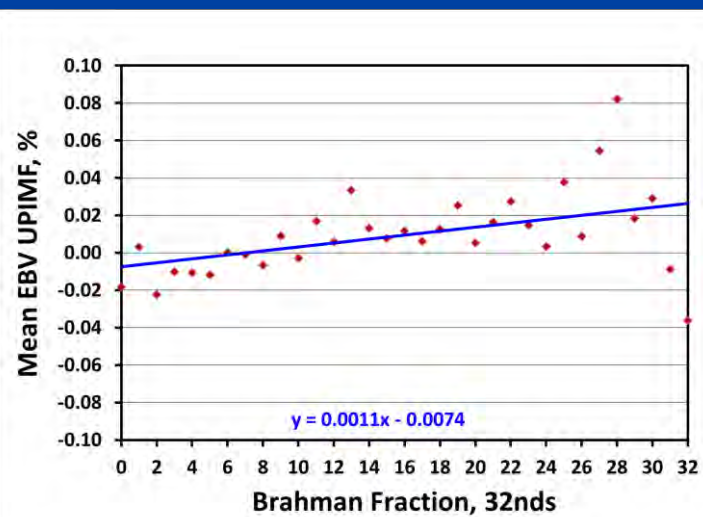
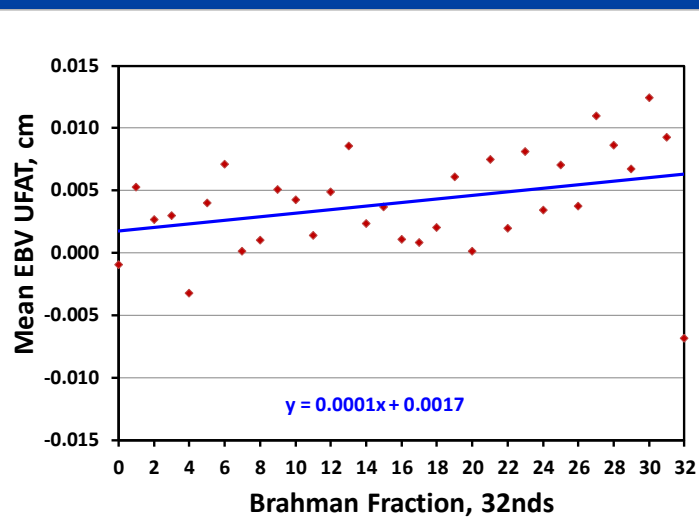
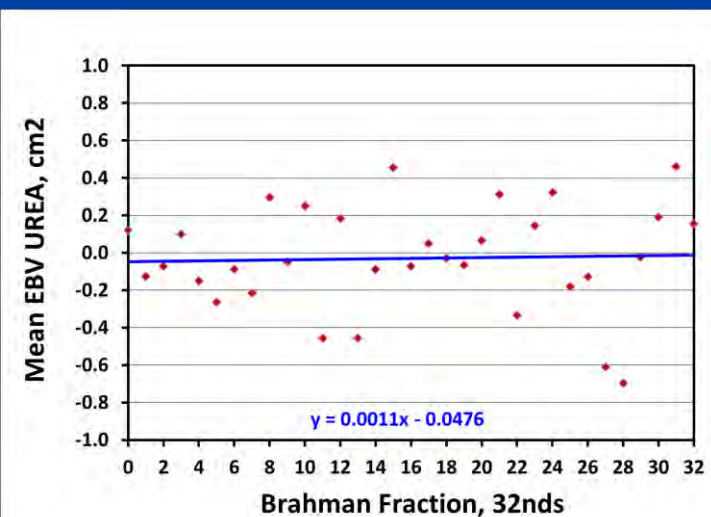
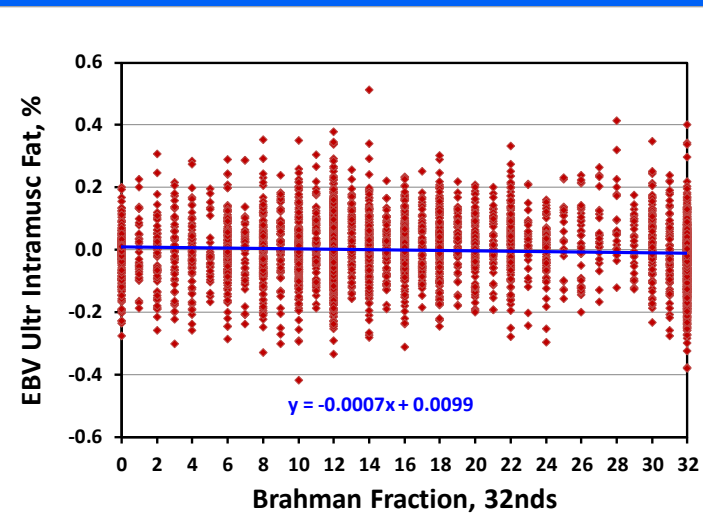
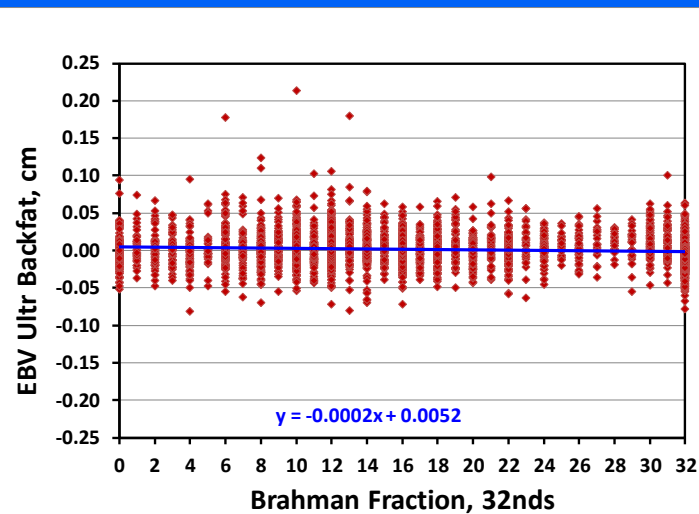
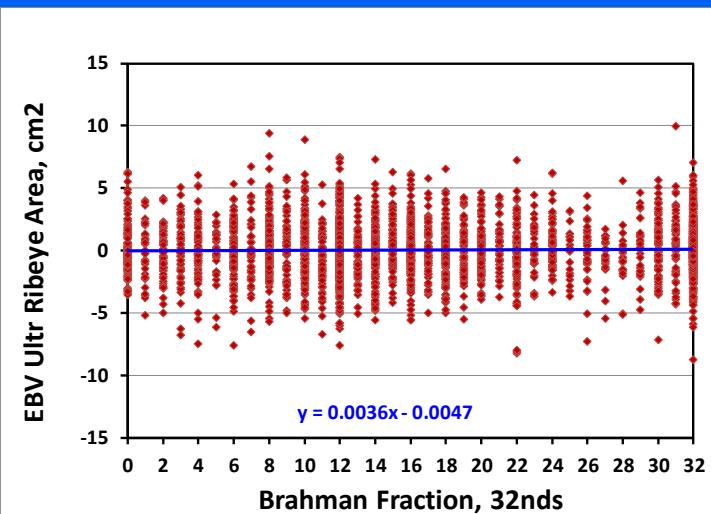
SLW and all carcass traits positively correlated with each other (low high)

# GPEBV Ultrasound and Carcass Traits

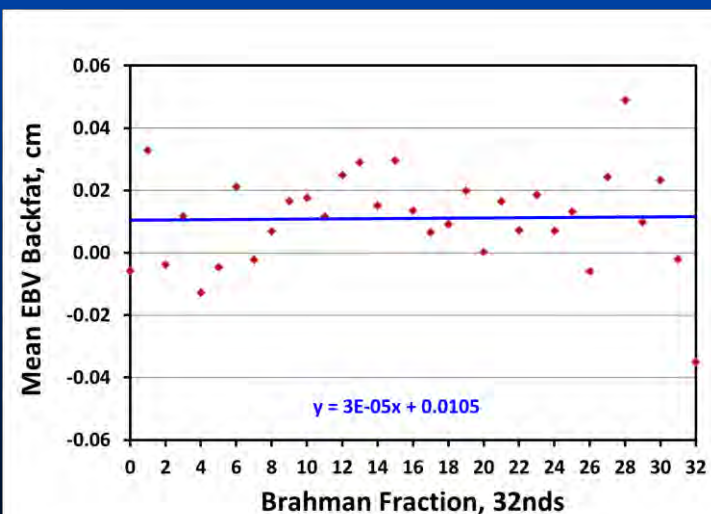
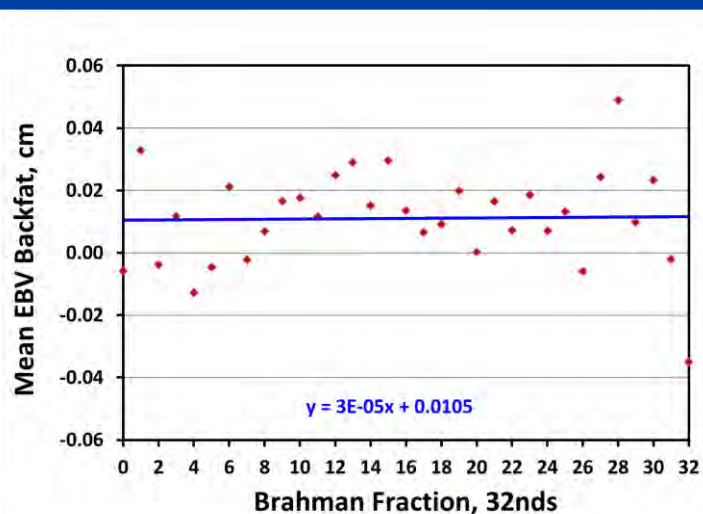
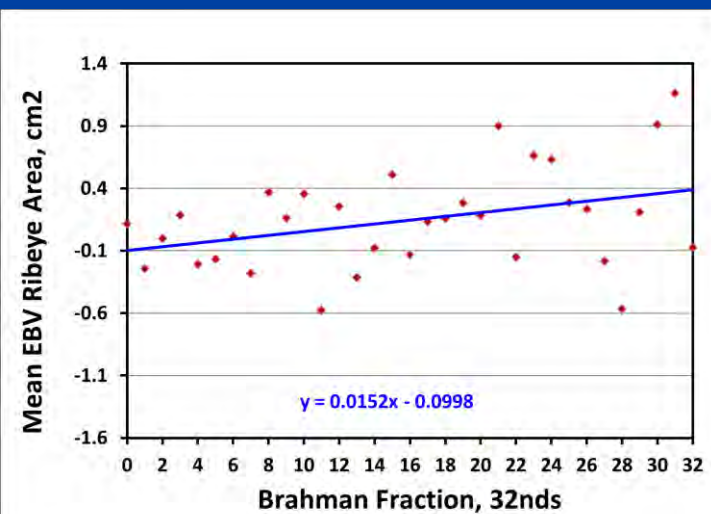
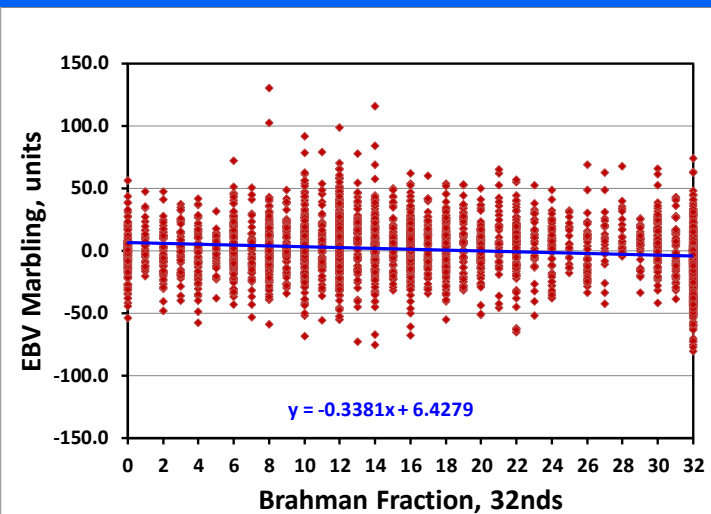
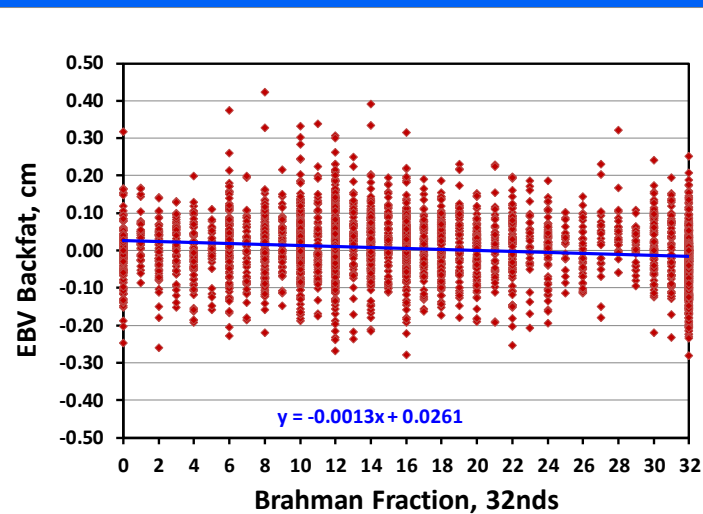
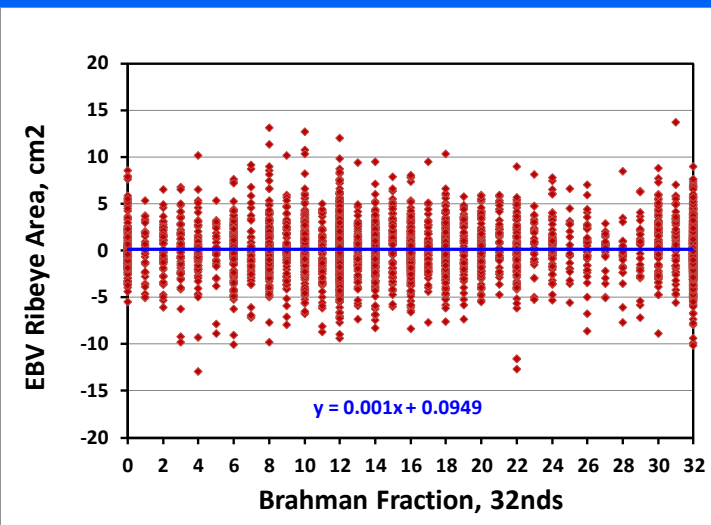




# GPEBV Ultrasound Traits

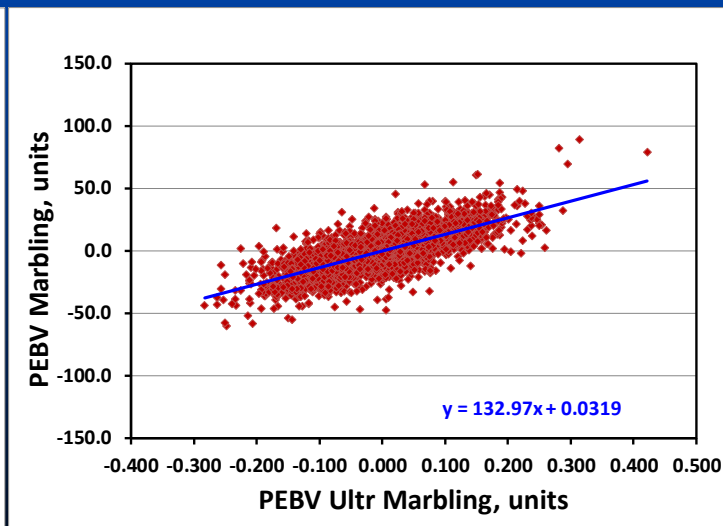
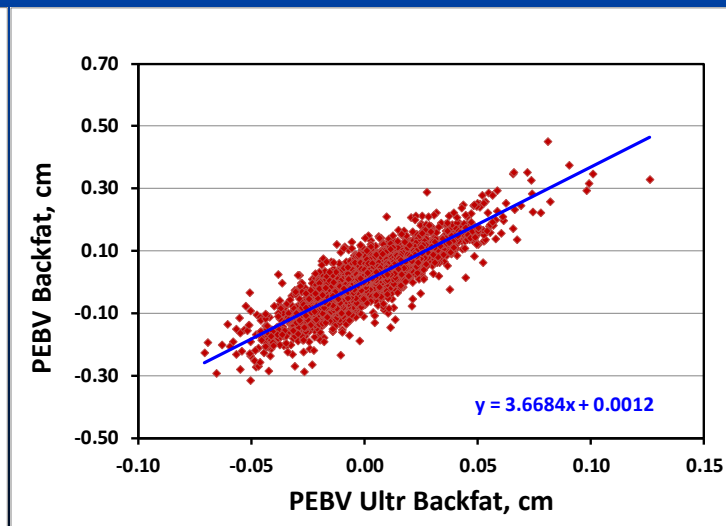
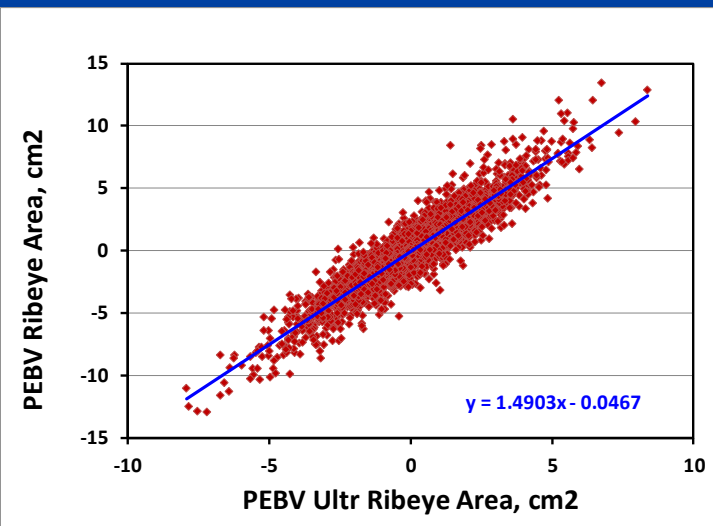
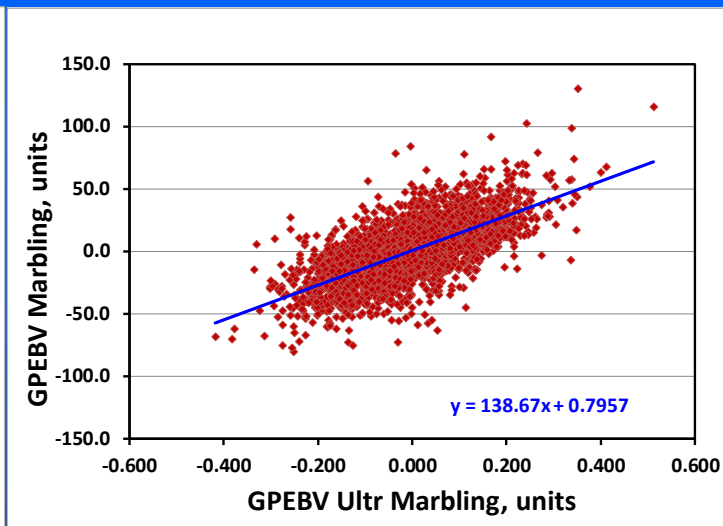
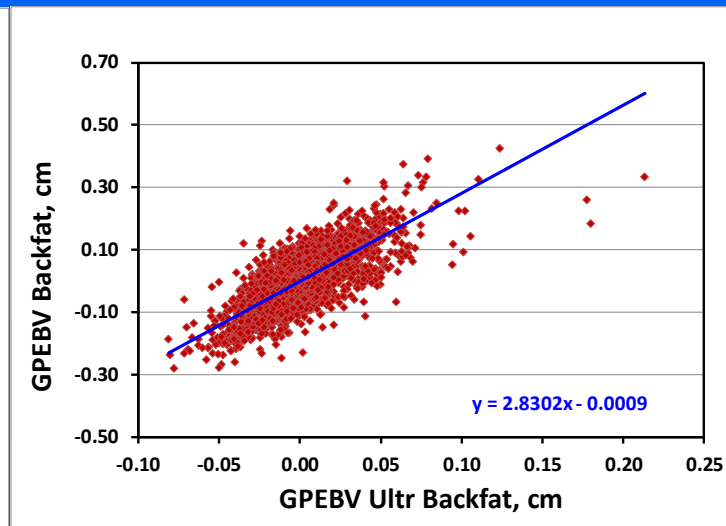
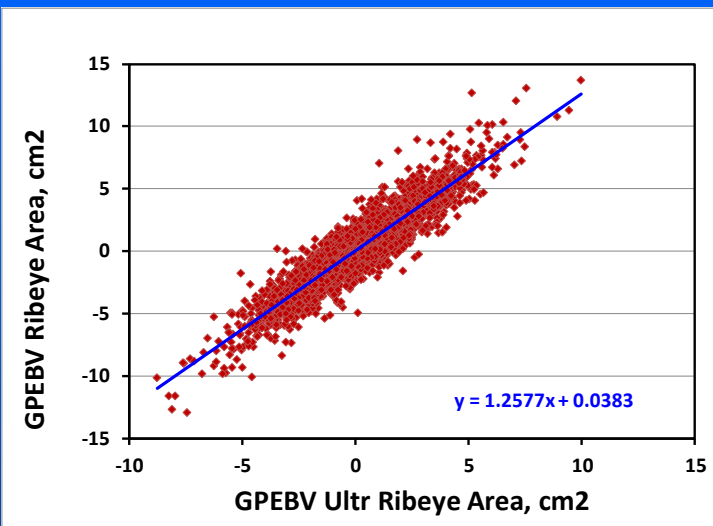


# GPEBV Carcass Traits





# GPEBV and PEBV Ultrasound and Carcass Traits



# **Additional Research Projects Involving the Multibreed Angus-Brahman and Brahman Herds**

**Identification of genetic markers associated with meat quality traits to  
improve prediction for tenderness in beef cattle**

**(R. Mateescu)**

**Muscle metabolic phenotypes and their association with meat quality traits**  
**(T. Scheffler, J. Scheffler, J. M. Gonzalez)**

**Animal and microbiological factors affecting the prevalence of Shiga Toxin  
Producing E. coli (STEC) and Cefotaxime Resistance (CefR)**

**(K. C. Jeong)**

**Influence and regulation of vitamin D on the immune system, health, and  
growth of beef calves**

**(C. Nelson)**