Sensory and Flavor Chemistry Characteristics of Australian Beef; the Influence of Intramuscular Fat, Feed and Breed.

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Table S1: Odor, flavor, taste, aftertaste and texture attributes used to evaluate grilled beef sensory properties.

ODOR	Definition	Anchor label 5% and 95%	Reference standard (Related Terms)
Overall impact[2]	*Overall odor intensity*	Low to high	
Grilled beef[1,2,3,4,5]	*Odor of grilled beef*	Low to high	*(barbeque, roasted)*
Livery[1,2,3,4,5]	*Odor of grilled liver*	Low to high	*grilled beef liver*
Metallic[1,2,4,5]	*Odor of iron*	Low to high	*iron tablet solution (minerals)*
Bloody [1,2,3,4,5]	*Odor of fresh blood*	Low to high	*beef blood juice*
Caramel	*Sweet toffee odor*	Low to high	*caramelised sugar solution*
Barnyard[1,2]	*Odor of stables*	Low to high	*p-cresol solution (1 ppm)*
Hay /grainy[2]	*Odor of dry hay or grains*	Low to high	*(hay-bale, dried grass)*
Fishy[2]	*Odor of oxidized fish oil*	Low to high	*fish oil tablets*
TASTE	**Definition**		**Related terms**
Sour /acidic[1,2,4,5]	*Intensity of sour/acidic taste*	Low to high	*Citric acid solution*
Sweet[1,2,5]	*Intensity of sweet taste*	Low to high	*Sugar solution*
Salty[1,2,4,5]	*Intensity of salty taste*	Low to high	*Salt solution*
TEXTURE	**Definition**		**Reference standard (Related Terms)**
Tenderness[2,3,4,5]	*Force required to bite through sample*	Tough to tender	
Juiciness[1,2,3,4]	*Amount of juice released from sample*	Dry to juicy	
Connective tissue [4] (3 and 10 chews)	*Amount of connective tissue*	Little to a lot	
Number of chews (3 and 10 chews)	*Number of chews required to swallow*	*Counted number*	

FLAVOR	*Definition*	Anchor label 5% and 95%	Reference standard (Related Terms)
Overall impact[2,5]	*Overall flavor intensity*	Low to high	
Grilled beef[1,2,3,4,5]	*Flavor of grilled beef*	Low to high	
Livery[1,2,3,4,5]	*Flavor of grilled liver*	Low to high	*grilled beef liver*
Metallic[1,2,5]	*Flavor of iron*	Low to high	*iron tablet solution*
Bloody[1,2,3,4,5]	*Flavor of fresh blood*	Low to high	
Dairy Fat[1,3,5]	*Flavor of butter/dairy products*	Low to high	*unsalted butter (butter, cream)*
Grassy[1,2,5]	*Flavor of freshly cut grass*	Low to high	*hexanal solution (20 ppm) green, leafy*
Hay/grainy[2]	*Flavor of dry hay or grains*	Low to high	
Fishy[2]	*Flavor of fish*	Low to high	*fish oil tablets*
AFTERTASTE	***Definition***		**Related terms**
Acidic aftertaste	*The residual intensity of acidic taste*	Low to high	
Metallic aftertaste	*The residual intensity of iron taste*	Low to high	*minerals, iron tablets*
Astringency[1]	*Dry puckering sensation*	Low to high	*mouth drying, dry mouthfeel*
Oily mouth coating	*Amount of oil left on mouth surfaces*	Low to high	*greasy, fatty, tallow*
Lingering aftertaste	*The intensity of the aftertaste after swallowing*	Low to high	

Samples were rated using a 100 mm line scale except for number of chews to swallow. Superscripts denote whether similar attributes were included in previously published beef flavor lexicons for assessment of marbled beef; [1] = Maughan et al. 2012, [2]= Corbin et al. 2015, [3]= Acheson et al. 2014, [4]= Duckett et al. 2013, [5]= Legako et al. 2015.

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3. Acheson, R. J.; Woerner, D. R.; Tatum, J. D., Effects of USDA carcass maturity on sensory attributes of beef produced by grain-finished steers and heifers classified as less than 30 months old using dentition. *J Anim Sci* **2014**, *92*, 1792-1799.
4. Duckett, S. K.; Neel, J. P. S.; Lewis, R. M.; Fontenot, J. P.; Clapham, W. M., Effects of forage species or concentrate finishing on animal performance, carcass and meat quality. *J Anim Sci* **2013**, *91*, 1454-1467.
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Table S2: Correlation matrices showing correlation coefficients (*r* values) (top) and corresponding *p* values (bottom) for relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) across all beef samples, AngusGrain, AngusGrass & WagyuGrass (n=42).

O_Impact	1	-																																	
O_Grilledbeef	2	0.76	-																																
O_Livery	3	0.07	-0.17	-																															
O_Bloody	4	0.32	0.18	0.07	-																														
O_Fishy	5	0.34	0.15	0.43	-0.09	-																													
O_Haygrainy	6	-0.05	0.02	0.15	-0.15	0.13	-																												
O_Barnyard	7	0.33	-0.05	0.65	-0.05	0.50	0.03	-																											
O_Caramel	8	0.25	0.46	-0.06	0.44	-0.10	0.09	-0.23	-																										
O_Metallic	9	0.05	-0.13	0.50	0.53	0.15	0.03	0.35	0.02	-																									
F_Impact	10	0.51	0.61	-0.21	0.57	-0.16	-0.25	-0.23	0.46	0.01	-																								
F_Grilledbeef	11	0.51	0.70	-0.21	0.37	-0.07	-0.11	-0.23	0.49	-0.06	0.88	-																							
F_Livery	12	-0.17	-0.24	0.54	-0.26	0.16	0.29	0.46	-0.10	0.17	-0.32	-0.35	-																						
F_Bloody	13	0.20	0.07	-0.04	0.90	-0.21	-0.20	-0.19	0.37	0.47	0.60	0.40	-0.30	-																					
F_Fishy	14	0.13	0.06	0.17	0.16	0.54	0.20	0.12	0.16	0.16	0.00	-0.02	0.06	0.19	-																				
F_Haygrainy	15	-0.25	-0.39	0.51	-0.37	0.22	0.40	0.50	-0.25	0.22	-0.63	-0.57	0.65	-0.41	0.05	-																			
F_Dairy_fat	16	0.39	0.48	-0.29	0.43	-0.13	-0.38	-0.26	0.24	-0.05	0.81	0.67	-0.44	0.47	0.01	-0.69	-																		
F_Grassy	17	0.33	0.38	-0.39	0.48	-0.39	-0.39	-0.33	0.28	-0.10	0.72	0.58	-0.47	0.49	-0.16	-0.77	0.72	-																	
F_Metallic	18	-0.02	-0.18	0.34	0.36	0.07	0.01	0.23	0.19	0.59	-0.06	-0.08	0.24	0.39	0.20	0.23	-0.27	-0.10	-																
T-Salty	19	0.36	0.43	-0.11	0.41	-0.12	-0.08	-0.06	0.23	0.17	0.65	0.61	-0.22	0.39	-0.16	-0.23	0.48	0.37	0.04	-															
T-Sour/acidic	20	-0.26	-0.46	0.32	-0.18	0.10	0.24	0.38	-0.26	0.30	-0.65	-0.56	0.42	-0.22	0.13	0.66	-0.76	-0.51	0.46	-0.27	-														
T-Sweet	21	0.40	0.52	-0.31	0.46	-0.19	-0.28	-0.35	0.30	-0.13	0.85	0.74	-0.47	0.48	0.02	-0.69	0.90	0.79	-0.26	0.48	-0.75	-													
Acidic_AT	22	-0.30	-0.49	0.23	-0.14	0.15	0.18	0.32	-0.23	0.31	-0.66	-0.56	0.31	-0.18	0.17	0.56	-0.72	-0.46	0.34	-0.29	0.93	-0.72	-											
Astringent_AT	23	-0.23	-0.47	0.37	-0.36	0.19	0.35	0.51	-0.24	0.11	-0.70	-0.57	0.47	-0.38	0.06	0.68	-0.80	-0.61	0.32	-0.38	0.85	-0.79	0.79	-										
Lingering_AT	24	0.10	-0.16	0.12	0.35	0.05	0.07	0.33	0.08	0.50	-0.08	-0.14	0.20	0.37	0.19	0.22	-0.26	-0.08	0.70	0.14	0.62	-0.32	0.55	0.47	-									
Metallic_AT	25	0.01	-0.28	0.30	0.56	-0.13	0.04	0.27	0.22	0.53	0.00	-0.10	0.12	0.54	-0.04	0.09	-0.21	0.06	0.68	0.07	0.37	-0.19	0.31	0.30	0.66	-								
Oily_mouthcoating-AT	26	0.43	0.38	-0.23	0.45	-0.03	-0.32	-0.12	0.14	0.05	0.68	0.54	-0.38	0.46	0.09	-0.55	0.90	0.66	-0.23	0.41	-0.57	0.78	-0.50	-0.64	-0.10	-0.20	-							
Tx-Juiciness3	27	0.31	0.35	-0.29	0.73	-0.29	-0.39	-0.36	0.39	0.14	0.85	0.64	-0.43	0.79	0.02	-0.68	0.82	0.74	-0.05	0.48	-0.62	0.82	-0.57	-0.77	-0.03	0.14	0.73	-						
Tx-Juiciness10	28	0.34	0.39	-0.32	0.69	-0.27	-0.41	-0.35	0.37	0.08	0.87	0.68	-0.47	0.74	0.00	-0.74	0.85	0.74	-0.09	0.49	-0.66	0.83	-0.61	-0.77	-0.06	0.10	0.74	0.99	-					
Tx-Tenderness3	29	0.27	0.41	-0.35	0.53	-0.36	-0.36	-0.44	0.32	0.01	0.86	0.67	-0.38	0.61	-0.06	-0.75	0.85	0.76	-0.14	0.50	-0.67	0.83	-0.65	-0.80	-0.14	-0.03	0.70	0.92	0.94	-				
Tx-Tenderness10	30	0.25	0.41	-0.38	0.49	-0.37	-0.37	-0.46	0.32	-0.06	0.86	0.68	-0.40	0.60	-0.08	-0.78	0.84	0.77	-0.17	0.49	-0.69	0.82	-0.67	-0.80	-0.16	-0.02	0.68	0.91	0.93	0.99	-			
Tx-NumberChewsSwallow	31	-0.25	-0.50	0.48	-0.29	0.30	0.29	0.48	-0.31	0.31	-0.78	-0.66	0.41	-0.36	0.03	0.74	-0.79	-0.66	0.35	-0.44	0.73	-0.77	0.73	0.78	0.30	0.21	-0.60	-0.75	-0.79	-0.88	-0.90	-		
Tx-Connective Tissue	32	-0.19	-0.40	0.36	-0.37	0.31	0.29	0.44	-0.34	0.14	-0.78	-0.61	0.32	-0.46	-0.01	0.71	-0.72	-0.73	0.22	-0.47	0.62	-0.77	0.58	0.69	0.22	0.07	-0.55	-0.77	-0.78	-0.90	-0.91	0.89	-	
MSA_MB	33	0.40	0.62	-0.17	0.35	-0.02	-0.34	-0.28	0.34	0.01	0.74	0.68	-0.34	0.33	0.01	-0.57	0.82	0.60	-0.23	0.38	-0.76	0.77	-0.70	-0.82	-0.42	-0.32	0.71	0.71	0.72	0.75	0.73	-0.68	-0.65	-
IMF	34	0.31	0.47	-0.17	0.27	-0.08	-0.25	-0.17	0.31	0.04	0.56	0.59	-0.31	0.23	-0.12	-0.38	0.78	0.52	-0.23	0.41	-0.51	0.66	-0.45	-0.63	-0.25	-0.26	0.78	0.59	0.60	0.61	0.58	-0.50	-0.45	0.77
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	

O_Impact	1	-																																	
O_Grilledbeef	2	<0.001	-																																
O_Livery	3	0.653	0.296	-																															
O_Bloody	4	0.041	0.257	0.643	-																														
O_Fishy	5	0.030	0.365	0.005	0.583	-																													
O_Haygrainy	6	0.767	0.884	0.355	0.363	0.413	-																												
O_Barnyard	7	0.038	0.769	<0.001	0.751	<0.001	0.873	-																											
O_Caramel	8	0.116	0.002	0.722	0.004	0.536	0.597	0.143	-																										
O_Metallic	9	0.738	0.402	<0.001	<0.001	0.365	0.835	0.027	0.900	-																									
F_Impact	10	<0.001	<0.001	0.178	<0.001	0.308	0.119	0.145	0.003	0.948	-																								
F_Grilledbeef	11	<0.001	<0.001	0.190	0.016	0.686	0.500	0.143	0.001	0.705	<0.001	-																							
F_Livery	12	0.285	0.134	<0.001	0.095	0.321	0.063	0.002	0.535	0.288	0.044	0.024	-																						
F_Bloody	13	0.206	0.683	0.828	<0.001	0.181	0.205	0.227	0.018	0.002	<0.001	0.011	0.058	-																					
F_Fishy	14	0.417	0.729	0.299	0.332	<0.001	0.199	0.438	0.313	0.331	0.976	0.918	0.712	0.236	-																				
F_Haygrainy	15	0.113	0.011	<0.001	0.019	0.163	0.010	<0.001	0.114	0.177	<0.001	<0.001	<0.001	0.008	0.768	-																			
F_Dairy_fat	16	0.012	0.001	0.064	0.006	0.420	0.015	0.101	0.124	0.756	<0.001	<0.001	0.004	0.002	0.951	<0.001	-																		
F_Grassy	17	0.037	0.014	0.011	0.001	0.011	0.011	0.034	0.082	0.516	<0.001	<0.001	0.002	0.001	0.304	<0.001	<0.001	-																	
F_Metallic	18	0.915	0.270	0.029	0.021	0.659	0.974	0.141	0.228	<0.001	0.708	0.620	0.139	0.012	0.220	0.149	0.086	0.525	-																
T-Salty	19	0.022	0.005	0.509	0.007	0.456	0.616	0.707	0.151	0.296	<0.001	<0.001	0.166	0.011	0.310	0.148	0.002	0.016	0.819	-															
T-Sour/acidic	20	0.099	0.003	0.044	0.254	0.523	0.133	0.014	0.101	0.060	<0.001	<0.001	0.007	0.170	0.430	<0.001	<0.001	<0.001	0.002	0.092	-														
T-Sweet	21	0.010	<0.001	0.049	0.002	0.235	0.081	0.023	0.055	0.412	<0.001	<0.001	0.002	0.001	0.898	<0.001	<0.001	<0.001	0.102	0.002	<0.001	-													
Acidic_AT	22	0.059	0.001	0.142	0.380	0.351	0.260	0.042	0.149	0.052	<0.001	<0.001	0.047	0.268	0.279	<0.001	<0.001	0.002	0.031	0.062	<0.001	<0.001	-												
Astringent_AT	23	0.153	0.002	0.018	0.019	0.245	0.026	<0.001	0.133	0.495	<0.001	<0.001	0.002	0.013	0.725	<0.001	<0.001	<0.001	0.042	0.015	<0.001	<0.001	<0.001	-											
Lingering_AT	24	0.521	0.313	0.459	0.024	0.734	0.669	0.035	0.617	<0.001	0.633	0.396	0.202	0.017	0.234	0.159	0.099	0.606	<0.001	0.372	<0.001	0.038	<0.001	0.002	-										
Metallic_AT	25	0.972	0.077	0.056	<0.001	0.431	0.799	0.082	0.173	<0.001	0.977	0.528	0.442	<0.001	0.793	0.581	0.181	0.721	<0.001	0.681	0.018	0.229	0.048	0.057	<0.001	-									
Oily_mouthcoating-AT	26	0.005	0.015	0.146	0.003	0.831	0.040	0.455	0.384	0.772	<0.001	<0.001	0.014	0.002	0.566	<0.001	<0.001	<0.001	0.156	0.007	<0.001	<0.001	<0.001	<0.001	0.528	0.221	-								
Tx-Juiciness3	27	0.048	0.023	0.065	<0.001	0.061	0.013	0.021	0.012	0.388	<0.001	<0.001	0.005	<0.001	0.896	<0.001	<0.001	<0.001	0.775	0.002	<0.001	<0.001	<0.001	<0.001	0.871	0.371	<0.001	-							
Tx-Juiciness10	28	0.030	0.012	0.044	<0.001	0.093	0.008	0.026	0.017	0.618	<0.001	<0.001	0.002	<0.001	0.976	<0.001	<0.001	<0.001	0.580	0.001	<0.001	<0.001	<0.001	<0.001	0.720	0.526	<0.001	<0.001	-						
Tx-Tenderness3	29	0.093	0.007	0.025	<0.001	0.020	0.019	0.004	0.039	0.949	<0.001	<0.001	0.014	<0.001	0.724	<0.001	<0.001	<0.001	0.379	<0.001	<0.001	<0.001	<0.001	<0.001	0.388	0.875	<0.001	<0.001	<0.001	-					
Tx-Tenderness10	30	0.118	0.008	0.015	0.001	0.018	0.018	0.002	0.039	0.692	<0.001	<0.001	0.009	<0.001	0.640	<0.001	<0.001	<0.001	0.301	0.001	<0.001	<0.001	<0.001	<0.001	0.321	0.888	<0.001	<0.001	<0.001	<0.001	-				
Tx-NumberChewsSwallow	31	0.117	<0.001	0.002	0.065	0.055	0.066	0.002	0.047	0.051	<0.001	<0.001	0.009	0.020	0.853	<0.001	<0.001	<0.001	0.026	0.004	<0.001	<0.001	<0.001	<0.001	0.056	0.189	<0.001	<0.001	<0.001	<0.001	<0.001	-			
Tx-Connective Tissue	32	0.238	0.010	0.021	0.018	0.050	0.068	0.004	0.031	0.377	<0.001	<0.001	0.043	0.003	0.959	<0.001	<0.001	<0.001	0.172	0.002	<0.001	<0.001	<0.001	<0.001	0.174	0.653	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-		
MSA_MB	33	0.010	<0.001	0.288	0.023	0.894	0.031	0.079	0.028	0.947	<0.001	<0.001	0.027	0.035	0.947	<0.001	<0.001	<0.001	0.155	0.014	<0.001	<0.001	<0.001	<0.001	0.007	0.039	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	
IMF	34	0.047	0.002	0.294	0.084	0.610	0.114	0.277	0.046	0.821	<0.001	<0.001	0.047	0.154	0.457	0.015	<0.001	<0.001	0.148	0.008	<0.001	<0.001	0.003	<0.001	0.122	0.101	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	

Table S3: Correlation matrices showing correlation coefficients (*r* values) (top) and corresponding *p* values (bottom) for relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for AngusGrain samples only (n=14).

O_Impact	1	-																															
O_Grilledbeef	2	0.84	-																														
O_Livery	3	-0.13	-0.37	-																													
O_Bloody	4	0.42	0.23	-0.03	-																												
O_Fishy	5	0.26	0.29	0.28	0.09	-																											
O_Haygrainy	6	0.08	0.21	0.00	-0.35	0.53	-																										
O_Barnyard	7	0.45	0.39	0.59	0.09	0.30	-0.12	-																									
O_Caramel	8	0.24	0.26	-0.04	0.69	0.14	-0.31	0.17	-																								
O_Metallic	9	-0.20	-0.32	0.41	0.50	-0.08	-0.41	0.14	0.10	-																							
F_Impact	10	0.68	0.72	-0.12	0.36	0.40	-0.09	0.48	0.26	0.13	-																						
F_Grilledbeef	11	0.74	0.81	-0.14	0.14	0.56	0.25	0.43	0.24	-0.24	0.89	-																					
F_Livery	12	-0.23	-0.40	0.59	-0.33	-0.18	-0.26	0.50	-0.29	0.17	-0.04	-0.16	-																				
F_Bloody	13	0.37	0.10	0.15	0.87	0.04	-0.54	0.19	0.49	0.67	0.49	0.19	-0.07	-																			
F_Fishy	14	0.01	-0.02	0.52	0.41	0.61	-0.19	0.45	0.43	0.37	0.27	0.18	0.03	0.48	-																		
F_Haygrainy	15	-0.45	-0.46	0.53	-0.71	-0.13	0.08	0.26	-0.32	-0.19	-0.45	-0.32	0.69	-0.61	-0.15	-																	
F_Dairy_fat	16	0.31	0.32	-0.27	0.17	-0.05	-0.41	0.09	-0.11	0.25	0.72	0.48	0.01	0.49	0.10	-0.48	-																
F_Grassy	17	0.28	0.24	-0.52	0.62	-0.22	-0.11	-0.44	0.29	0.29	0.33	0.19	-0.51	0.57	-0.19	-0.78	0.43	-															
F_Metallic	18	-0.42	-0.49	0.48	0.32	0.20	-0.31	0.16	0.37	0.50	-0.20	-0.36	0.27	0.34	0.63	0.11	-0.28	-0.23	-														
T-Salty	19	0.33	0.62	-0.17	-0.16	0.09	0.16	0.33	0.06	-0.10	0.36	0.42	-0.27	-0.20	-0.15	-0.04	0.10	-0.10	-0.30	-													
T-Sour/acidic	20	-0.38	-0.43	0.48	-0.12	-0.12	0.09	0.11	0.04	-0.01	-0.74	-0.66	0.16	-0.32	0.09	0.49	-0.81	-0.54	0.32	-0.12	-												
T-Sweet	21	0.44	0.42	-0.22	0.23	0.27	-0.01	0.06	-0.08	0.19	0.80	0.68	-0.09	0.43	0.10	-0.49	0.81	0.53	-0.35	-0.02	-0.87	-											
Acidic_AT	22	-0.24	-0.34	0.40	0.13	-0.25	0.04	0.05	0.16	0.16	-0.66	-0.63	0.00	-0.08	0.01	0.25	-0.71	-0.21	0.25	-0.05	0.92	-0.79	-										
Astringent_AT	23	-0.12	-0.17	0.40	-0.26	0.00	0.47	0.18	-0.09	-0.30	-0.52	-0.30	0.21	-0.44	-0.10	0.45	-0.72	-0.44	0.02	-0.04	0.79	-0.67	0.74	-									
Lingering_AT	24	0.13	0.11	0.04	0.76	0.00	-0.31	0.06	0.63	0.52	0.20	0.01	-0.34	0.71	0.42	-0.59	0.14	0.48	0.42	0.15	0.05	-0.05	0.32	-0.04	-								
Metallic_AT	25	-0.02	-0.23	0.23	0.79	0.05	-0.30	-0.09	0.68	0.45	-0.14	-0.26	-0.28	0.66	0.52	-0.41	-0.20	0.35	0.56	-0.36	0.32	-0.21	0.50	0.09	0.78	-							
Oily_mouthcoating-AT	26	0.50	0.49	-0.25	0.23	-0.07	-0.32	0.21	-0.02	0.26	0.81	0.60	0.00	0.52	-0.04	-0.47	0.92	0.50	-0.31	0.32	-0.84	0.78	-0.66	-0.66	0.21	-0.23	-						
Tx-Juiciness3	27	0.45	0.30	-0.10	0.71	0.03	-0.54	0.19	0.34	0.57	0.74	0.41	-0.08	0.89	0.32	-0.65	0.78	0.61	0.05	-0.02	-0.62	0.71	-0.41	-0.69	0.50	0.31	0.78	-					
Tx-Juiciness10	28	0.49	0.39	-0.21	0.68	0.06	-0.51	0.19	0.31	0.46	0.78	0.47	-0.11	0.83	0.29	-0.70	0.82	0.59	0.00	0.02	-0.67	0.73	-0.49	-0.70	0.46	0.23	0.81	0.98	-				
Tx-Tenderness3	29	0.38	0.32	-0.21	0.56	-0.05	-0.48	0.15	0.08	0.58	0.70	0.34	-0.07	0.75	0.17	-0.66	0.84	0.57	-0.03	0.09	-0.66	0.72	-0.47	-0.72	0.40	0.09	0.84	0.93	0.95	-			
Tx-Tenderness10	30	0.42	0.37	-0.23	0.53	-0.05	-0.45	0.12	0.08	0.53	0.72	0.39	-0.15	0.74	0.17	-0.70	0.87	0.60	-0.08	0.17	-0.70	0.72	-0.49	-0.72	0.44	0.09	0.89	0.92	0.93	0.98	-		
Tx-NumberChewsSwallo	31	-0.46	-0.65	0.54	-0.19	-0.14	0.18	-0.04	-0.07	0.13	-0.64	-0.56	0.46	-0.27	-0.16	0.67	-0.76	-0.34	0.36	-0.35	0.64	-0.58	0.58	0.56	-0.21	0.15	-0.67	-0.54	-0.63	-0.62	-0.69	-	
Tx-Connective Tissue	32	-0.32	-0.40	0.09	-0.54	-0.28	0.09	-0.16	-0.18	-0.57	-0.68	-0.45	0.34	-0.65	-0.37	0.73	-0.65	-0.55	-0.04	-0.32	0.50	-0.61	0.28	0.45	-0.64	-0.24	-0.68	-0.75	-0.75	-0.80	-0.83	0.61	-
MSA_MB	33	0.35	0.28	-0.02	0.27	-0.03	-0.39	0.31	0.03	0.37	0.68	0.45	0.29	0.51	0.10	-0.22	0.67	0.34	0.05	0.00	-0.74	0.70	-0.67	-0.70	0.00	-0.19	0.76	0.68	0.68	0.71	0.70	-0.32	-0.39
IMF	34	0.31	0.29	-0.09	0.06	-0.21	-0.48	0.28	-0.07	0.32	0.67	0.44	0.26	0.38	-0.10	-0.09	0.78	0.26	-0.22	0.29	-0.72	0.66	-0.64	-0.72	-0.05	-0.37	0.87	0.66	0.65	0.71	0.71	-0.40	-0.40
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
O_Impact	1	-																															
O_Grilledbeef	2	<0.001	-																														
O_Livery	3	0.680	0.207	-																													
O_Bloody	4	0.154	0.444	0.928	-																												
O_Fishy	5	0.393	0.334	0.361	0.770	-																											
O_Haygrainy	6	0.784	0.496	0.993	0.242	0.064	-																										
O_Barnyard	7	0.124	0.185	0.033	0.775	0.320	0.704	-																									
O_Caramel	8	0.420	0.385	0.894	0.009	0.646	0.310	0.588	-																								
O_Metallic	9	0.502	0.279	0.169	0.080	0.792	0.165	0.660	0.745	-																							
F_Impact	10	0.010	0.006	0.705	0.234	0.179	0.776	0.095	0.393	0.675	-																						
F_Grilledbeef	11	0.004	<0.001	0.650	0.640	0.048	0.413	0.143	0.438	0.431	<0.001	-																					
F_Livery	12	0.451	0.171	0.032	0.266	0.555	0.382	0.079	0.336	0.579	0.887	0.605	-																				
F_Bloody	13	0.219	0.755	0.621	<0.001	0.897	0.056	0.534	0.088	0.013	0.088	0.527	0.831	-																			
F_Fishy	14	0.962	0.959	0.066	0.169	0.027	0.533	0.124	0.139	0.219	0.367	0.551	0.914	0.099	-																		
F_Haygrainy	15	0.122	0.114	0.062	0.006	0.665	0.807	0.391	0.289	0.529	0.119	0.284	0.008	0.027	0.631	-																	
F_Dairy_fat	16	0.302	0.294	0.371	0.568	0.866	0.159	0.761	0.726	0.401	0.005	0.097	0.973	0.086	0.750	0.099	-																
F_Grassy	17	0.362	0.432	0.069	0.024	0.461	0.723	0.129	0.334	0.341	0.273	0.526	0.074	0.042	0.528	0.002	0.143	-															
F_Metallic	18	0.151	0.091	0.097	0.280	0.513	0.299	0.601	0.207	0.080	0.521	0.232	0.370	0.263	0.021	0.733	0.363	0.456	-														
T-Salty	19	0.275	0.024	0.578	0.607	0.782	0.592	0.270	0.838	0.743	0.230	0.157	0.365	0.519	0.619	0.908	0.738	0.755	0.323	-													
T-Sour/acidic	20	0.197	0.139	0.098	0.690	0.687	0.761	0.715	0.903	0.965	0.004	0.014	0.591	0.290	0.762	0.088	<0.001	0.055	0.288	0.693	-												
T-Sweet	21	0.136	0.154	0.465	0.446	0.372	0.980	0.845	0.802	0.534	<0.001	0.010	0.778	0.142	0.746	0.090	<0.001	0.064	0.236	0.940	<0.001	-											
Acidic_AT	22	0.421	0.259	0.181	0.666	0.402	0.890	0.875	0.595	0.599	0.015	0.021	0.987	0.792	0.966	0.415	0.006	0.481	0.403	0.877	<0.001	0.002	-										
Astringent_AT	23	0.693	0.569	0.176	0.385	0.989	0.105	0.557	0.781	0.318	0.066	0.322	0.490	0.132	0.739	0.123	0.006	0.135	0.954	0.897	0.001	0.012	0.004	-									
Lingering_AT	24	0.665	0.733	0.909	0.003	0.991	0.303	0.837	0.020	0.066	0.519	0.987	0.252	0.007	0.158	0.032	0.659	0.095	0.150	0.630	0.878	0.866	0.286	0.899	-								
Metallic_AT	25	0.946	0.459	0.453	0.001	0.872	0.324	0.771	0.011	0.124	0.639	0.390	0.356	0.013	0.069	0.168	0.512	0.236	0.047	0.225	0.284	0.481	0.080	0.773	0.002	-							
Oily_mouthcoating-AT	26	0.084	0.092	0.404	0.440	0.808	0.282	0.498	0.937	0.383	<0.001	0.029	0.996	0.072	0.903	0.105	<0.001	0.081	0.299	0.279	<0.001	0.002	0.013	0.014	0.488	0.453	-						
Tx-Juiciness3	27	0.122	0.312	0.752	0.006	0.932	0.054	0.525	0.261	0.044	0.004	0.160	0.795	<0.001	0.287	0.016	0.002	0.028	0.874	0.955	0.024	0.007	0.160	0.009	0.085	0.300	0.002	-					
Tx-Juiciness10	28	0.086	0.188	0.499	0.011	0.857	0.075	0.534	0.300	0.111	0.002	0.102	0.722	<0.001	0.344	0.008	<0.001	0.033	0.991	0.948	0.012	0.004	0.088	0.007	0.115	0.449	<0.001	<0.001	-				
Tx-Tenderness3	29	0.200	0.286	0.498	0.047	0.862	0.093	0.628	0.802	0.039	0.008	0.253	0.812	0.003	0.571	0.015	<0.001	0.043	0.930	0.761	0.014	0.006	0.106	0.005	0.176	0.758	<0.001	<0.001	<0.001	-			
Tx-Tenderness10	30	0.155	0.209	0.444	0.062	0.882	0.127	0.691	0.803	0.065	0.006	0.182	0.615	0.004	0.586	0.008	<0.001	0.029	0.795	0.579	0.008	0.005	0.088	0.006	0.129	0.771	<0.001	<0.001	<0.001	<0.001	-		
Tx-NumberChewsSwallo	31	0.113	0.017	0.056	0.532	0.649	0.550	0.901	0.831	0.673	0.018	0.048	0.118	0.380	0.594	0.012	0.003	0.251	0.226	0.247	0.018	0.039	0.036	0.044	0.496	0.623	0.012	0.059	0.020	0.025	0.009	-	
Tx-Connective Tissue	32	0.281	0.176	0.767	0.055	0.350	0.776	0.612	0.547	0.043	0.011	0.126	0.262	0.016	0.208	0.005	0.015	0.054	0.907	0.282	0.083	0.028	0.362	0.126	0.018	0.435	0.010	0.003	0.003	0.001	<0.001	0.027	-
MSA_MB	33	0.248	0.363	0.940	0.381	0.912	0.190	0.309	0.932	0.217	0.011	0.123	0.340	0.077	0.748	0.467	0.013	0.254	0.873	0.998	0.004	0.007	0.012	0.008	0.996	0.541	0.003	0.010	0.010	0.006	0.008	0.280	0.187
IMF	34	0.310	0.338	0.758	0.849	0.495	0.100	0.346	0.821	0.281	0.012	0.132	0.383	0.206	0.748	0.760	0.002	0.385	0.473	0.338	0.005	0.014	0.018	0.006	0.862	0.217	<0.001	0.014	0.015	0.007	0.006	0.176	0.181
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table S4: Correlation matrices showing correlation coefficients (*r* values) (top) and corresponding *p* values (bottom) for relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for AngusGrass samples only (n=14).

O_Impact	1	-																																		
O_Grilledbeef	2	0.64	-																																	
O_Livery	3	0.41	0.05	-																																
O_Bloody	4	0.31	0.18	0.26	-																															
O_Fishy	5	0.41	0.25	0.36	-0.48	-																														
O_Haygrainy	6	-0.10	-0.12	-0.13	0.09	-0.12	-																													
O_Barnyard	7	0.37	-0.16	0.72	0.05	0.51	0.10	-																												
O_Caramel	8	0.44	0.68	-0.01	0.49	-0.27	0.13	-0.15	-																											
O_Metallic	9	0.42	0.21	0.61	0.49	0.26	0.32	0.53	0.26	-																										
F_Impact	10	0.34	0.33	0.21	0.79	-0.38	-0.39	-0.18	0.37	0.29	-																									
F_Grilledbeef	11	0.28	0.63	0.18	0.54	-0.17	-0.28	-0.24	0.55	0.42	0.79	-																								
F_Livery	12	0.03	-0.26	0.41	0.07	0.23	0.25	0.63	-0.14	0.30	-0.17	-0.35	-																							
F_Bloody	13	0.15	0.12	0.00	0.92	-0.57	0.08	-0.21	0.40	0.36	0.76	0.52	-0.15	-																						
F_Fishy	14	0.25	0.16	-0.32	-0.29	0.62	0.15	0.12	-0.19	-0.02	-0.39	-0.33	-0.03	-0.19	-																					
F_Haygrainy	15	-0.03	-0.23	0.19	-0.07	0.27	0.58	0.64	-0.06	0.32	-0.51	-0.51	0.78	-0.24	0.20	-																				
F_Dairy_fat	16	0.06	0.11	-0.11	0.23	-0.34	-0.65	-0.53	0.13	-0.18	0.63	0.50	-0.61	0.34	-0.35	-0.83	-																			
F_Grassy	17	0.27	0.11	-0.03	0.51	-0.51	-0.44	-0.33	0.19	-0.25	0.76	0.36	-0.33	0.54	-0.35	-0.64	0.68	-																		
F_Metallic	18	0.61	0.50	0.32	0.65	-0.06	0.25	0.28	0.52	0.66	0.44	0.43	0.22	0.51	-0.07	0.23	-0.16	0.06	-																	
T-Salty	19	0.16	0.22	0.41	0.74	-0.18	-0.01	0.01	0.41	0.63	0.68	0.65	0.16	0.64	-0.38	-0.03	0.33	0.21	0.43	-															
T-Sour/acidic	20	0.26	0.09	0.07	0.08	0.44	0.54	0.50	-0.11	0.42	-0.25	-0.27	0.57	-0.02	0.58	0.75	-0.76	-0.48	0.46	-0.02	-														
T-Sweet	21	0.15	0.26	-0.08	0.46	-0.46	-0.63	-0.46	0.34	-0.22	0.75	0.57	-0.58	0.52	-0.38	-0.73	0.87	0.81	0.01	0.37	-0.65	-													
Acidic_AT	22	0.06	-0.04	0.00	-0.25	0.60	0.44	0.53	-0.25	0.29	-0.51	-0.41	0.53	-0.30	0.68	0.78	-0.80	-0.68	0.11	-0.20	0.89	-0.75	-												
Astringent_AT	23	0.22	-0.15	0.29	-0.13	0.50	0.53	0.79	-0.18	0.42	-0.52	-0.48	0.62	-0.30	0.43	0.85	-0.84	-0.64	0.33	-0.22	0.82	-0.80	0.82	-											
Lingering_AT	24	0.42	0.19	0.14	0.51	0.12	0.45	0.41	0.18	0.55	0.12	-0.01	0.47	0.42	0.37	0.55	-0.51	-0.18	0.79	0.22	0.84	-0.34	0.56	0.64	-										
Metallic_AT	25	0.27	-0.03	0.38	0.77	-0.41	0.41	0.38	0.37	0.63	0.46	0.27	0.34	0.64	-0.35	0.27	-0.18	0.22	0.71	0.44	0.26	-0.02	-0.01	0.28	0.58	-									
Oily_mouthcoating-AT	26	0.16	0.02	-0.31	-0.06	-0.06	-0.65	-0.38	-0.14	-0.51	0.34	0.05	-0.44	0.01	0.10	-0.62	0.75	0.65	-0.37	-0.10	-0.45	0.66	-0.44	-0.55	-0.42	-0.45	-								
Tx-Juiciness3	27	0.00	0.13	-0.22	0.69	-0.70	-0.24	-0.52	0.36	-0.04	0.85	0.60	-0.37	0.80	-0.39	-0.57	0.68	0.81	0.16	0.51	-0.41	0.81	-0.60	-0.72	-0.07	0.33	0.41	-							
Tx-Juiciness10	28	0.03	0.13	-0.14	0.67	-0.62	-0.31	-0.49	0.26	0.01	0.87	0.65	-0.45	0.80	-0.36	-0.69	0.71	0.82	0.15	0.47	-0.45	0.80	-0.63	-0.73	-0.10	0.33	0.41	0.97	-						
Tx-Tenderness3	29	-0.02	0.11	-0.23	0.54	-0.57	-0.39	-0.57	0.21	-0.04	0.83	0.61	-0.41	0.71	-0.33	-0.70	0.78	0.76	0.08	0.46	-0.47	0.77	-0.61	-0.78	-0.16	0.19	0.48	0.94	0.96	-					
Tx-Tenderness10	30	-0.06	0.07	-0.23	0.53	-0.58	-0.38	-0.57	0.16	-0.08	0.82	0.59	-0.38	0.70	-0.34	-0.71	0.74	0.77	0.05	0.40	-0.47	0.74	-0.61	-0.77	-0.16	0.21	0.46	0.93	0.96	0.99	-				
Tx-NumberChewsSwallow	31	0.22	0.00	0.43	-0.30	0.59	0.49	0.67	-0.12	0.33	-0.65	-0.46	0.45	-0.49	0.30	0.73	-0.77	-0.70	0.19	-0.21	0.59	-0.74	0.62	0.84	0.37	0.03	-0.58	-0.85	-0.86	-0.93	-0.94	-			
Tx-Connective Tissue	32	0.10	0.02	0.31	-0.39	0.45	0.45	0.47	-0.15	0.13	-0.67	-0.43	0.28	-0.56	0.20	0.56	-0.71	-0.66	0.12	-0.35	0.45	-0.68	0.45	0.71	0.23	-0.07	-0.53	-0.84	-0.82	-0.92	-0.90	0.93	-		
MSA_MB	33	-0.02	0.41	-0.18	-0.16	-0.05	-0.53	-0.59	0.20	-0.16	0.37	0.62	-0.58	-0.06	-0.27	-0.73	0.74	0.30	-0.24	0.19	-0.64	0.57	-0.55	-0.77	-0.65	-0.43	0.48	0.39	0.43	0.54	0.50	-0.59	-0.50	-	
IMF	34	-0.15	0.38	-0.23	-0.23	-0.09	-0.31	-0.57	0.28	-0.19	0.18	0.51	-0.51	-0.17	-0.31	-0.49	0.56	0.13	-0.31	0.19	-0.58	0.45	-0.43	-0.67	-0.68	-0.45	0.32	0.29	0.25	0.34	0.29	-0.43	-0.33	0.92	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33		

O_Impact	1	-																																	
O_Grilledbeef	2	0.013	-																																
O_Livery	3	0.145	0.875	-																															
O_Bloody	4	0.283	0.545	0.378	-																														
O_Fishy	5	0.147	0.381	0.207	0.084	-																													
O_Haygrainy	6	0.726	0.692	0.667	0.762	0.683	-																												
O_Barnyard	7	0.194	0.581	0.004	0.872	0.062	0.745	-																											
O_Caramel	8	0.120	0.007	0.975	0.078	0.353	0.660	0.603	-																										
O_Metallic	9	0.131	0.463	0.020	0.074	0.364	0.269	0.051	0.375	-																									
F_Impact	10	0.240	0.249	0.477	<0.001	0.175	0.164	0.546	0.194	0.316	-																								
F_Grilledbeef	11	0.330	0.015	0.527	0.045	0.554	0.341	0.402	0.040	0.131	<0.001	-																							
F_Livery	12	0.926	0.373	0.145	0.803	0.422	0.390	0.016	0.629	0.303	0.560	0.226	-																						
F_Bloody	13	0.617	0.687	0.990	<0.001	0.033	0.774	0.466	0.151	0.210	0.001	0.058	0.599	-																					
F_Fishy	14	0.397	0.588	0.263	0.316	0.019	0.602	0.679	0.508	0.941	0.171	0.250	0.914	0.513	-																				
F_Haygrainy	15	0.914	0.430	0.514	0.818	0.359	0.029	0.014	0.848	0.272	0.063	0.064	0.001	0.400	0.490	-																			
F_Dairy_fat	16	0.835	0.717	0.711	0.422	0.241	0.013	0.050	0.646	0.539	0.015	0.068	0.021	0.232	0.215	<0.001	-																		
F_Grassy	17	0.349	0.701	0.923	0.061	0.065	0.120	0.251	0.505	0.390	0.002	0.210	0.249	0.046	0.224	0.014	0.007	-																	
F_Metallic	18	0.020	0.068	0.267	0.012	0.851	0.383	0.335	0.056	0.010	0.116	0.125	0.457	0.061	0.811	0.439	0.578	0.846	-																
T-Salty	19	0.581	0.449	0.145	0.002	0.533	0.984	0.970	0.150	0.016	0.007	0.012	0.596	0.013	0.181	0.929	0.244	0.465	0.126	-															
T-Sour/acidic	20	0.377	0.756	0.821	0.799	0.118	0.047	0.070	0.697	0.134	0.381	0.358	0.032	0.949	0.028	0.002	0.002	0.081	0.095	0.951	-														
T-Sweet	21	0.613	0.374	0.777	0.102	0.095	0.016	0.102	0.240	0.461	0.002	0.034	0.030	0.059	0.185	0.003	<0.001	<0.001	0.978	0.197	0.011	-													
Acidic_AT	22	0.850	0.895	0.997	0.384	0.023	0.114	0.051	0.380	0.320	0.062	0.146	0.051	0.296	0.008	0.001	<0.001	0.008	0.699	0.490	<0.001	0.002	-												
Astringent_AT	23	0.443	0.608	0.318	0.667	0.071	0.054	<0.001	0.533	0.131	0.057	0.079	0.019	0.296	0.121	<0.001	<0.001	0.013	0.252	0.449	<0.001	<0.001	<0.001	-											
Lingering_AT	24	0.134	0.515	0.645	0.064	0.686	0.108	0.145	0.543	0.043	0.683	0.964	0.092	0.139	0.198	0.042	0.063	0.534	<0.001	0.440	<0.001	0.240	0.036	0.013	-										
Metallic_AT	25	0.347	0.920	0.184	0.001	0.147	0.145	0.182	0.193	0.017	0.102	0.343	0.239	0.013	0.213	0.346	0.527	0.455	0.004	0.114	0.369	0.957	0.961	0.340	0.028	-									
Oily_mouthcoating-AT	26	0.597	0.957	0.283	0.844	0.840	0.012	0.175	0.625	0.060	0.240	0.858	0.115	0.964	0.746	0.018	0.002	0.011	0.187	0.743	0.103	0.010	0.112	0.039	0.135	0.106	-								
Tx-Juiciness3	27	1.000	0.646	0.454	0.006	0.005	0.413	0.055	0.210	0.882	<0.001	0.024	0.193	<0.001	0.169	0.033	0.008	<0.001	0.595	0.061	0.145	<0.001	0.025	0.004	0.804	0.244	0.144	-							
Tx-Juiciness10	28	0.919	0.661	0.644	0.009	0.018	0.281	0.076	0.365	0.972	<0.001	0.012	0.106	<0.001	0.207	0.006	0.004	<0.001	0.616	0.091	0.104	<0.001	0.016	0.003	0.724	0.257	0.144	<0.001	-						
Tx-Tenderness3	29	0.941	0.714	0.422	0.045	0.035	0.174	0.032	0.470	0.897	<0.001	0.021	0.148	0.005	0.246	0.006	0.001	0.002	0.781	0.101	0.089	0.001	0.021	0.001	0.594	0.508	0.082	<0.001	<0.001	-					
Tx-Tenderness10	30	0.840	0.809	0.431	0.052	0.029	0.178	0.034	0.589	0.797	<0.001	0.027	0.178	0.006	0.237	0.004	0.003	0.001	0.854	0.152	0.089	0.003	0.019	0.001	0.577	0.480	0.097	<0.001	<0.001	<0.001	-				
Tx-NumberChewsSwallow	31	0.442	0.987	0.121	0.303	0.027	0.079	0.009	0.694	0.246	0.012	0.099	0.111	0.074	0.305	0.003	0.001	0.005	0.506	0.473	0.025	0.002	0.018	<0.001	0.193	0.916	0.029	<0.001	<0.001	<0.001	<0.001	-			
Tx-Connective Tissue	32	0.744	0.937	0.281	0.173	0.103	0.106	0.088	0.603	0.655	0.008	0.130	0.341	0.036	0.499	0.038	0.004	0.010	0.682	0.221	0.109	0.007	0.106	0.005	0.429	0.804	0.049	<0.001	<0.001	<0.001	<0.001	<0.001	-		
MSA_MB	33	0.953	0.144	0.533	0.589	0.874	0.053	0.027	0.484	0.588	0.192	0.018	0.029	0.850	0.352	0.003	0.003	0.297	0.400	0.505	0.013	0.034	0.044	0.001	0.012	0.129	0.085	0.165	0.129	0.046	0.066	0.025	0.072	-	
IMF	34	0.597	0.185	0.419	0.421	0.760	0.282	0.033	0.327	0.511	0.549	0.063	0.064	0.567	0.274	0.072	0.037	0.667	0.273	0.505	0.030	0.111	0.124	0.009	0.007	0.107	0.265	0.322	0.392	0.229	0.310	0.130	0.252	<0.001	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33		

Table S5: Correlation matrices showing correlation coefficients (*r* values) (top) and corresponding *p* values (bottom) for relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for WagyuGrass samples only (n=14).

O_Impact	1	-																															
O_Grilledbeef	2	0.83	-																														
O_Livery	3	0.25	0.31	-																													
O_Bloody	4	0.24	-0.05	0.19	-																												
O_Fishy	5	0.49	0.29	0.60	0.32	-																											
O_Haygrainy	6	-0.07	0.07	0.54	-0.27	0.27	-																										
O_Barnyard	7	0.77	0.67	0.58	0.03	0.52	0.02	-																									
O_Caramel	8	-0.19	-0.02	0.39	0.04	0.21	0.33	-0.09	-																								
O_Metallic	9	0.21	0.11	0.35	0.79	0.13	0.05	0.08	0.15	-																							
F_Impact	10	0.39	0.22	-0.23	0.61	-0.01	-0.51	0.00	-0.05	0.27	-																						
F_Grilledbeef	11	0.47	0.32	-0.35	0.23	-0.04	-0.46	0.13	-0.07	0.04	0.78	-																					
F_Livery	12	-0.25	0.12	0.56	-0.41	0.13	0.63	0.07	0.40	-0.07	-0.48	-0.34	-																				
F_Bloody	13	0.02	-0.31	-0.04	0.91	0.17	-0.34	-0.15	0.05	0.65	0.59	0.26	-0.49	-																			
F_Fishy	14	-0.02	-0.26	0.57	0.29	0.56	0.56	0.19	0.03	0.29	-0.21	-0.23	0.29	0.31	-																		
F_Haygrainy	15	0.05	0.08	0.60	-0.13	0.27	0.68	0.24	0.40	0.27	-0.57	-0.51	0.48	-0.24	0.37	-																	
F_Dairy_fat	16	0.61	0.36	-0.09	0.56	0.28	-0.50	0.34	-0.21	0.15	0.84	0.67	-0.54	0.47	-0.10	-0.56	-																
F_Grassy	17	0.32	0.17	-0.42	0.29	-0.23	-0.73	0.12	-0.39	0.07	0.69	0.73	-0.47	0.33	-0.32	-0.76	0.65	-															
F_Metallic	18	-0.15	-0.25	-0.02	0.40	0.01	-0.06	-0.13	0.33	0.50	0.19	0.21	0.08	0.59	0.28	-0.01	0.01	0.27	-														
T-Salty	19	0.44	0.19	-0.30	0.43	-0.04	-0.31	0.03	-0.19	0.22	0.79	0.65	-0.42	0.43	-0.12	-0.22	0.66	0.47	0.19	-													
T-Sour/acidic	20	-0.33	-0.29	-0.05	-0.35	-0.40	0.14	-0.12	0.08	0.06	-0.49	-0.24	0.30	-0.21	0.02	0.51	-0.73	-0.18	0.32	-0.17	-												
T-Sweet	21	0.55	0.21	-0.18	0.53	0.21	-0.46	0.26	-0.52	0.16	0.71	0.54	-0.54	0.45	0.04	-0.53	0.89	0.67	0.03	0.71	-0.55	-											
Acidic_AT	22	-0.36	-0.46	-0.17	-0.11	-0.18	0.07	-0.31	0.05	0.13	-0.37	-0.13	0.10	0.08	0.17	0.36	-0.64	-0.13	0.40	-0.16	0.85	-0.46	-										
Astringent_AT	23	-0.50	-0.40	0.06	-0.55	-0.22	0.27	-0.07	0.32	-0.29	-0.69	-0.51	0.37	-0.33	0.09	0.48	-0.76	-0.44	0.23	-0.45	0.76	-0.71	0.56	-									
Lingering_AT	24	-0.05	-0.24	-0.27	0.30	-0.24	-0.32	-0.18	0.28	0.30	0.47	0.53	-0.16	0.48	-0.07	-0.03	0.17	0.40	0.69	0.61	0.41	0.17	0.41	0.16	-								
Metallic_AT	25	-0.14	-0.34	-0.06	0.57	0.13	-0.40	-0.15	0.24	0.38	0.31	0.04	-0.19	0.68	0.06	-0.13	0.21	0.29	0.72	0.29	0.11	0.26	0.23	0.11	0.61	-							
Oily_mouthcoating-AT	26	0.64	0.28	0.00	0.69	0.36	-0.39	0.36	-0.21	0.35	0.78	0.63	-0.55	0.60	0.13	-0.41	0.95	0.62	0.18	0.67	-0.60	0.91	-0.47	-0.71	0.27	0.30	-						
Tx-Juiciness3	27	0.24	-0.04	-0.20	0.80	0.08	-0.64	-0.06	-0.15	0.38	0.85	0.53	-0.62	0.74	-0.11	-0.54	0.83	0.58	0.14	0.63	-0.55	0.77	-0.36	-0.71	0.35	0.45	0.81	-					
Tx-Juiciness10	28	0.25	-0.02	-0.24	0.72	0.06	-0.69	-0.03	-0.16	0.26	0.85	0.54	-0.64	0.67	-0.19	-0.57	0.84	0.59	0.06	0.64	-0.55	0.77	-0.38	-0.68	0.35	0.44	0.79	0.99	-				
Tx-Tenderness3	29	0.21	0.13	-0.25	0.42	-0.14	-0.56	-0.05	-0.16	0.06	0.87	0.66	-0.36	0.35	-0.30	-0.68	0.82	0.67	-0.04	0.63	-0.59	0.73	-0.58	-0.71	0.28	0.16	0.69	0.83	0.85	-			
Tx-Tenderness10	30	0.16	0.08	-0.34	0.36	-0.12	-0.63	-0.09	-0.14	-0.07	0.84	0.66	-0.40	0.34	-0.35	-0.78	0.82	0.68	-0.03	0.55	-0.64	0.70	-0.60	-0.66	0.25	0.20	0.66	0.81	0.84	0.97	-		
Tx-NumberChewsSwall	31	-0.24	-0.26	0.12	-0.19	0.12	0.39	-0.06	0.08	0.11	-0.75	-0.59	0.13	-0.09	0.31	0.61	-0.74	-0.61	0.10	-0.53	0.57	-0.65	0.68	0.60	-0.19	-0.06	-0.59	-0.62	-0.65	-0.93	-0.91	-	
Tx-Connective Tissue	32	-0.08	-0.16	0.23	-0.10	0.23	0.46	0.04	0.21	0.22	-0.66	-0.47	0.11	-0.06	0.35	0.73	-0.61	-0.69	0.03	-0.43	0.45	-0.59	0.54	0.46	-0.15	-0.16	-0.44	-0.51	-0.55	-0.84	-0.84	0.92	-
MSA_MB	33	0.67	0.56	0.26	0.64	0.35	-0.38	0.46	0.01	0.41	0.77	0.57	-0.28	0.41	-0.09	-0.35	0.84	0.59	0.03	0.44	-0.60	0.67	-0.54	-0.76	0.10	0.19	0.81	0.72	0.71	0.70	0.65	-0.66	-0.53	-
IMF	34	0.72	0.55	0.01	0.37	0.33	-0.33	0.42	0.09	0.20	0.61	0.69	-0.34	0.18	-0.24	-0.20	0.79	0.45	-0.03	0.52	-0.49	0.61	-0.47	-0.63	0.24	0.07	0.76	0.58	0.60	0.59	0.57	-0.57	-0.31	0.76
		1	2	3	4	5	6	7.000	8.000	9.000	10.000	11.000	12.000	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
O_Impact	1	-																															
O_Grilledbeef	2	<0.001	-																														
O_Livery	3	0.396	0.286	-																													
O_Bloody	4	0.401	0.878	0.516	-																												
O_Fishy	5	0.074	0.322	0.023	0.259	-																											
O_Haygrainy	6	0.800	0.822	0.045	0.348	0.347	-																										
O_Barnyard	7	0.001	0.009	0.030	0.919	0.056	0.935	-																									
O_Caramel	8	0.509	0.955	0.173	0.905	0.464	0.245	0.762	-																								
O_Metallic	9	0.466	0.715	0.217	<0.001	0.657	0.860	0.778	0.612	-																							
F_Impact	10	0.173	0.441	0.427	0.020	0.975	0.061	0.989	0.865	0.352	-																						
F_Grilledbeef	11	0.091	0.260	0.213	0.436	0.900	0.100	0.663	0.800	0.886	0.001	-																					
F_Livery	12	0.395	0.691	0.037	0.149	0.648	0.016	0.803	0.152	0.820	0.082	0.237	-																				
F_Bloody	13	0.939	0.273	0.882	<0.001	0.550	0.236	0.603	0.871	0.012	0.028	0.361	0.075	-																			
F_Fishy	14	0.958	0.360	0.033	0.315	0.038	0.037	0.505	0.915	0.320	0.473	0.422	0.319	0.276	-																		
F_Haygrainy	15	0.869	0.784	0.025	0.655	0.351	0.007	0.414	0.159	0.348	0.033	0.065	0.086	0.403	0.191	-																	
F_Dairy_fat	16	0.019	0.203	0.767	0.035	0.332	0.067	0.241	0.476	0.599	<0.001	0.009	0.048	0.093	0.743	0.037	-																
F_Grassy	17	0.265	0.551	0.140	0.320	0.433	0.003	0.672	0.164	0.813	0.006	0.003	0.092	0.248	0.262	0.002	0.012	-															
F_Metallic	18	0.614	0.390	0.958	0.157	0.977	0.844	0.668	0.247	0.066	0.507	0.482	0.788	0.025	0.335	0.967	0.975	0.346	-														
T-Salty	19	0.111	0.505	0.297	0.123	0.884	0.275	0.923	0.513	0.446	<0.001	0.012	0.130	0.122	0.687	0.456	0.011	0.087	0.514	-													
T-Sour/acidic	20	0.244	0.321	0.862	0.219	0.159	0.638	0.687	0.789	0.826	0.073	0.413	0.303	0.470	0.955	0.062	0.003	0.541	0.270	0.554	-												
T-Sweet	21	0.044	0.474	0.549	0.049	0.468	0.096	0.376	0.059	0.596	0.004	0.048	0.048	0.108	0.905	0.053	<0.001	0.009	0.930	0.005	0.040	-											
Acidic_AT	22	0.204	0.100	0.559	0.717	0.543	0.823	0.275	0.858	0.652	0.188	0.648	0.730	0.793	0.560	0.213	0.014	0.657	0.157	0.576	<0.001	0.097	-										
Astringent_AT	23	0.067	0.152	0.839	0.042	0.446	0.357	0.818	0.269	0.323	0.006	0.064	0.192	0.256	0.765	0.080	0.002	0.115	0.420	0.108	0.002	0.004	0.038	-									
Lingering_AT	24	0.869	0.416	0.342	0.290	0.418	0.262	0.540	0.339	0.305	0.087	0.053	0.586	0.081	0.812	0.928	0.554	0.158	0.006	0.021	0.147	0.564	0.144	0.585	-								
Metallic_AT	25	0.628	0.229	0.834	0.034	0.646	0.153	0.610	0.410	0.185	0.274	0.901	0.510	0.007	0.836	0.663	0.466	0.307	0.004	0.309	0.721	0.367	0.426	0.716	0.020	-							
Oily_mouthcoating-AT	26	0.013	0.333	0.995	0.006	0.203	0.174	0.205	0.463	0.219	<0.001	0.016	0.042	0.022	0.668	0.147	<0.001	0.019	0.547	0.008	0.024	<0.001	0.094	0.004	0.360	0.291	-						
Tx-Juiciness3	27	0.413	0.889	0.503	<0.001	0.798	0.014	0.843	0.605	0.180	<0.001	0.054	0.019	0.002	0.721	0.046	<0.001	0.030	0.645	0.017	0.043	0.001	0.209	0.004	0.219	0.103	<0.001	-					
Tx-Juiciness10	28	0.385	0.937	0.415	0.004	0.829	0.006	0.906	0.586	0.361	<0.001	0.046	0.013	0.009	0.524	0.035	<0.001	0.026	0.846	0.014	0.041	0.001	0.175	0.007	0.226	0.120	<0.001	<0.001	-				
Tx-Tenderness3	29	0.468	0.650	0.396	0.131	0.624	0.038	0.868	0.578	0.850	<0.001	0.010	0.202	0.218	0.302	0.007	<0.001	0.009	0.888	0.016	0.027	0.003	0.030	0.004	0.332	0.581	0.006	<0.001	<0.001	-			
Tx-Tenderness10	30	0.597	0.779	0.240	0.202	0.687	0.016	0.772	0.641	0.812	<0.001	0.011	0.152	0.232	0.223	<0.001	<0.001	0.008	0.925	0.040	0.013	0.005	0.025	0.010	0.397	0.495	0.010	<0.001	<0.001	<0.001	-		
Tx-NumberChewsSwall	31	0.417	0.362	0.679	0.510	0.679	0.172	0.826	0.782	0.720	0.002	0.028	0.652	0.753	0.284	0.021	0.002	0.021	0.747	0.052	0.033	0.012	0.007	0.024	0.526	0.837	0.027	0.019	0.012	<0.001	<0.001	-	
Tx-Connective Tissue	32	0.779	0.595	0.434	0.744	0.427	0.098	0.902	0.479	0.453	0.010	0.092	0.714	0.832	0.223	0.003	0.022	0.006	0.922	0.125	0.108	0.026	0.045	0.100	0.604	0.575	0.119	0.065	0.043	<0.001	<0.001	<0.001	-
MSA_MB	33	0.009	0.038	0.368	0.014	0.225	0.181	0.100	0.985	0.149	0.001	0.035	0.328	0.146	0.754	0.218	<0.001	0.028	0.925	0.111	0.024	0.009	0.045	0.002	0.723	0.516	<0.001	0.004	0.004	0.005	0.012	0.011	0.053	-
IMF	34	0.004	0.042	0.964	0.199	0.256	0.244	0.134	0.771	0.487	0.020	0.007	0.236	0.535	0.415	0.497	<0.001	0.103	0.921	0.059	0.078	0.020	0.093	0.016	0.418	0.817	0.002	0.030	0.024	0.025	0.033	0.033	0.289	0.002
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

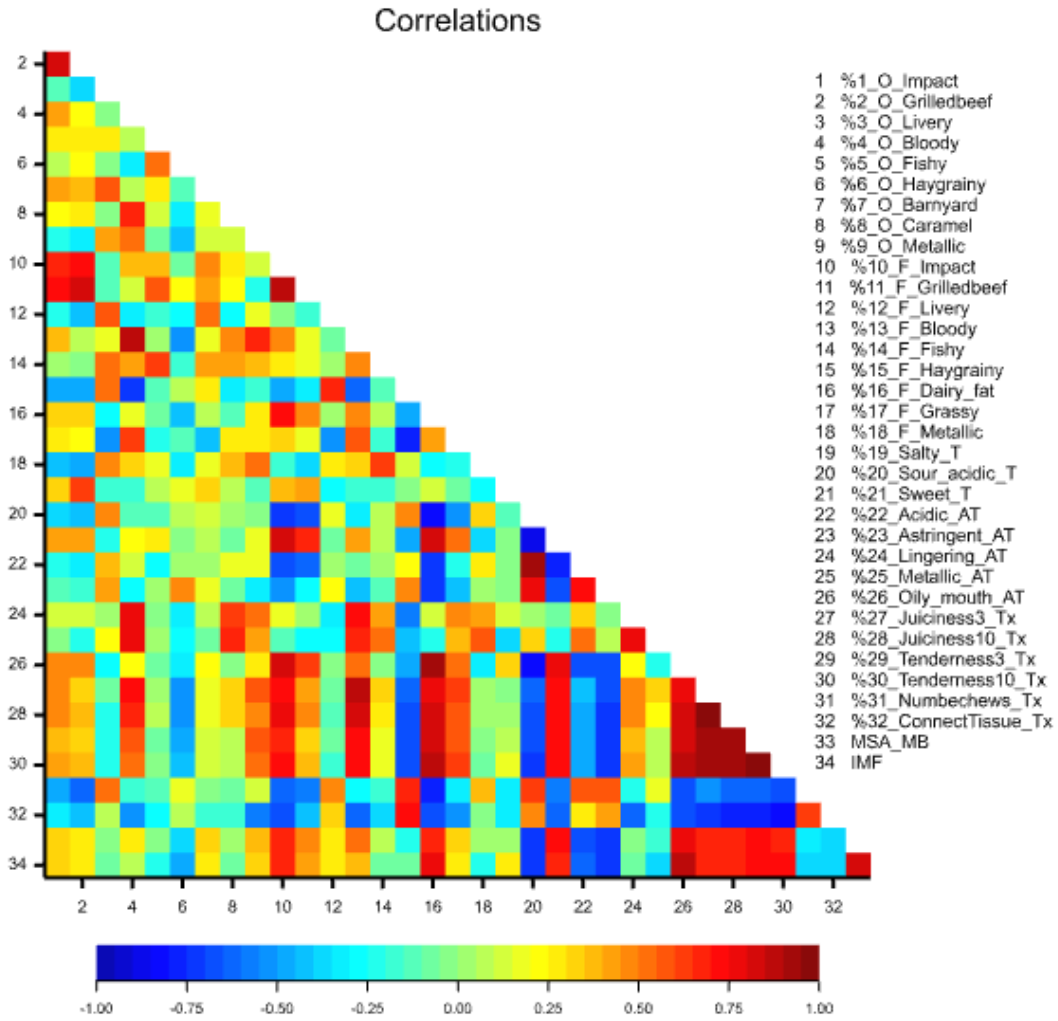

Figure S1: Correlation plot summarizing relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for AngusGrain samples only (n=14). Dark blue denotes a strong negative relationship, dark red indicates a strong positive relationship. Note the correlation patterns between the sensory attributes and IMF and MSA-MB were almost identical.

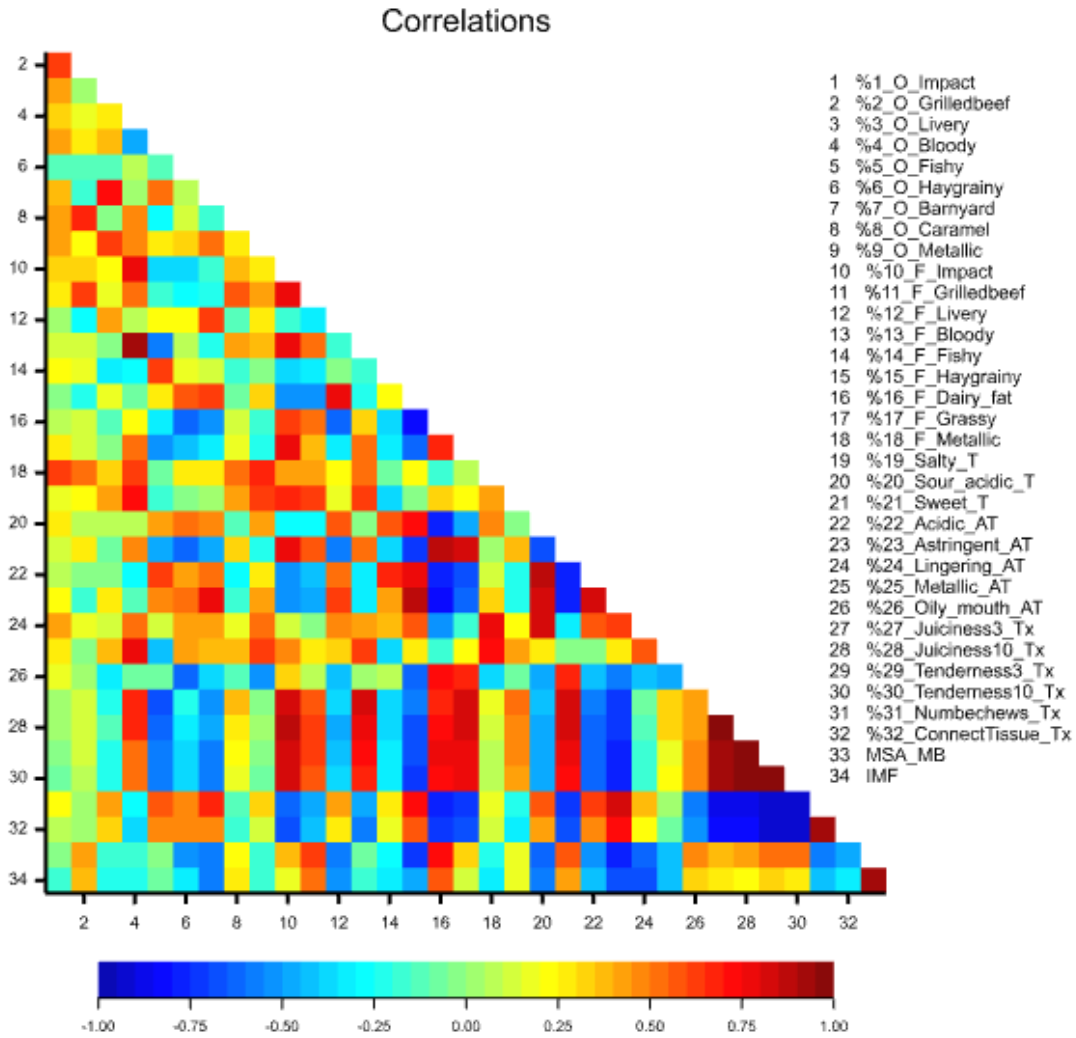

Figure S2: Correlation plot summarizing relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for AngusGrass samples only (n=14). Dark blue denotes a strong negative relationship, dark red indicates a strong positive relationship. Note the correlation patterns between the sensory attributes and IMF and MSA-MB were almost identical.

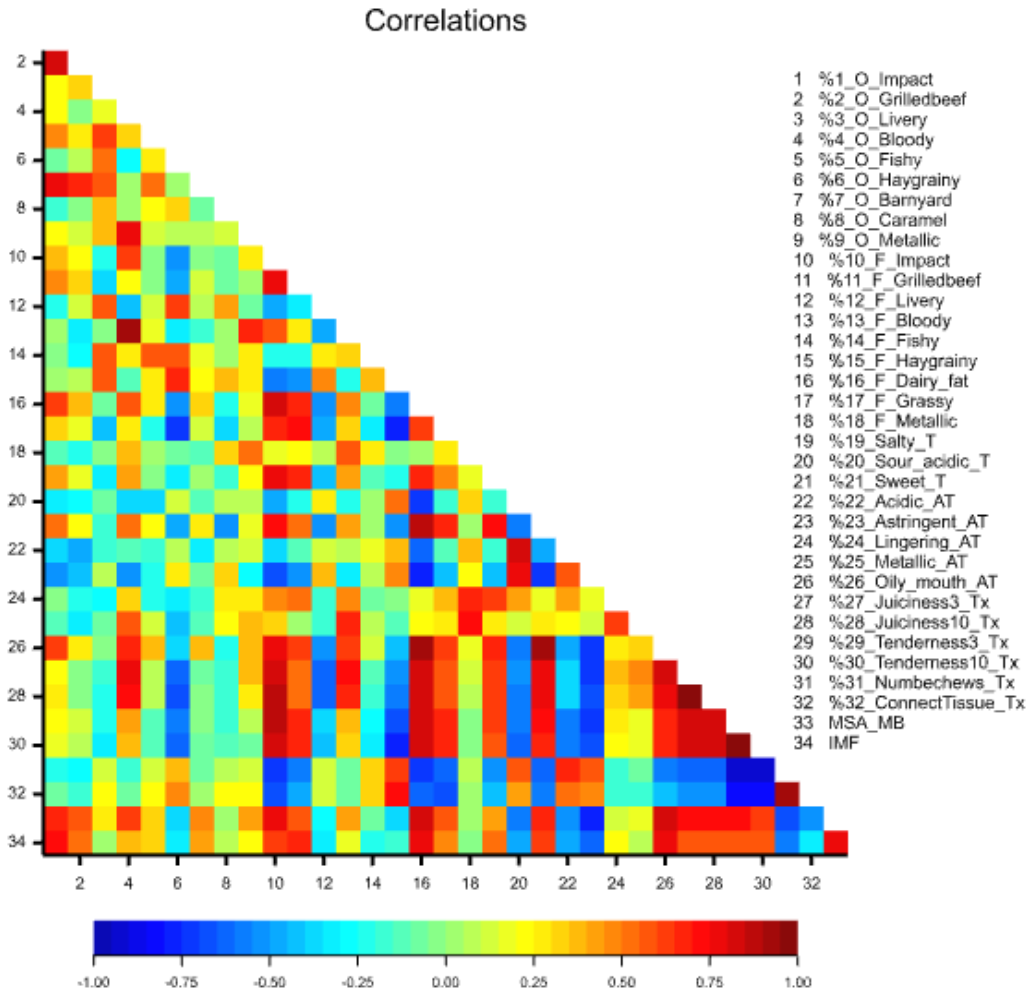

Figure S3: Correlation plot summarizing relationships between odor (O), flavor (F), taste (T), aftertaste (AT) and texture (Tx) sensory attributes and MSA-MB and IMF (%) for WagyuGrass samples only (n=14). Dark blue denotes a strong negative relationship, dark red indicates a strong positive relationship. Note the correlation patterns between the sensory attributes and IMF and MSA-MB were almost identical.