

Sensory characteristics of male impala (*Aepyceros melampus*) meat, produced under varying production systems and nutrition

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Supplementary Material

Table S1 Correlation matrix for the Pearson correlation coefficients (*r*) for the sensory characteristics and fatty acids obtained in impala meat. Values in bold are significant at a level of $P \leq 0.05$.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	1	<0.001	<0.001	0.001	0.982	<0.001	0.005	<0.001	<0.001	0.000	0.000	<0.001
2	0.782	1	<0.001	0.001	0.872	<0.001	0.004	0.001	0.000	0.004	0.008	<0.001
3	0.679	0.693	1	<0.001	0.061	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4	-0.549	-0.517	-0.736	1	0.031	<0.001	0.006	0.001	0.009	0.000	<0.001	<0.001
5	-0.004	-0.028	-0.315	0.360	1	0.259	0.192	0.635	0.231	0.004	0.030	0.019
6	0.751	0.626	0.744	-0.691	-0.193	1	0.001	<0.001	0.001	0.001	<0.001	<0.001
7	-0.457	-0.467	-0.739	0.447	0.222	-0.513	1	0.001	<0.001	0.000	0.001	0.003
8	0.614	0.521	0.618	-0.540	-0.082	0.712	-0.551	1	0.001	0.005	0.000	0.000
9	0.603	0.567	0.716	-0.429	-0.205	0.515	-0.687	0.526	1	<0.001	<0.001	0.004
10	0.552	0.473	0.604	-0.554	-0.473	0.548	-0.567	0.461	0.680	1	0.001	0.003
11	0.580	0.432	0.781	-0.717	-0.362	0.697	-0.525	0.602	0.652	0.550	1	<0.001
12	-0.662	-0.622	-0.794	0.760	0.388	-0.686	0.481	-0.578	-0.468	-0.486	-0.742	1
13	-0.198	-0.162	-0.341	0.284	-0.177	-0.349	0.186	-0.278	-0.218	0.127	-0.468	0.322
14	0.737	0.689	0.866	-0.738	-0.333	0.818	-0.555	0.688	0.697	0.678	0.836	-0.764
15	-0.369	-0.372	-0.625	0.458	0.488	-0.495	0.664	-0.441	-0.564	-0.590	-0.605	0.581
16	0.579	0.561	0.799	-0.656	-0.417	0.675	-0.564	0.539	0.555	0.488	0.825	-0.860
17	-0.034	0.123	0.051	-0.021	0.190	0.002	-0.038	-0.066	0.078	0.009	-0.024	-0.039
18	-0.044	0.139	-0.208	0.283	0.264	-0.330	0.084	-0.068	0.044	-0.078	-0.427	0.405
19	-0.042	0.097	-0.079	0.134	0.230	0.111	0.050	-0.040	-0.201	-0.101	-0.091	0.117
20	0.074	0.007	-0.080	0.005	-0.152	0.081	0.284	0.082	-0.086	0.055	-0.030	-0.087
21	0.019	0.012	-0.215	0.374	0.012	-0.142	0.090	-0.036	0.046	0.130	-0.322	0.191
22	-0.018	0.035	0.221	-0.384	-0.006	0.260	-0.095	0.106	-0.018	-0.084	0.365	-0.169
23	-0.072	-0.099	-0.256	0.388	0.091	-0.334	0.021	-0.245	0.048	0.122	-0.439	0.316
24	0.029	0.095	0.236	-0.402	0.087	0.194	-0.209	0.086	0.156	-0.002	0.326	-0.129
25	-0.537	-0.377	-0.664	0.678	0.220	-0.796	0.401	-0.562	-0.339	-0.418	-0.656	0.712
26	0.164	0.147	0.218	-0.014	-0.143	0.151	-0.136	-0.089	0.103	0.004	0.093	-0.059
27	-0.235	-0.265	-0.112	0.072	-0.147	-0.287	0.178	-0.184	-0.051	-0.166	-0.086	0.146
28	-0.302	-0.384	-0.283	0.201	0.214	-0.374	0.327	-0.429	-0.425	-0.369	-0.323	0.299
29	-0.238	-0.366	-0.227	0.216	0.243	-0.260	0.264	-0.392	-0.415	-0.367	-0.250	0.276
30	-0.458	-0.576	-0.418	0.280	0.394	-0.470	0.306	-0.484	-0.502	-0.415	-0.435	0.476
31	-0.481	-0.587	-0.426	0.258	0.345	-0.567	0.362	-0.501	-0.471	-0.390	-0.447	0.473
32	-0.142	-0.207	-0.048	-0.107	0.155	-0.116	0.129	0.045	-0.141	0.006	-0.104	0.168
33	-0.240	-0.199	-0.281	0.162	-0.023	-0.175	0.062	-0.322	-0.083	0.012	-0.300	0.296
34	-0.145	0.072	-0.101	-0.085	-0.066	0.016	0.053	0.060	0.135	0.068	0.028	-0.059
35	-0.422	-0.527	-0.398	0.219	0.366	-0.531	0.337	-0.417	-0.418	-0.372	-0.380	0.400
36	0.181	0.026	0.133	-0.249	0.254	0.117	0.087	0.198	0.019	0.122	0.172	-0.202
37	-0.387	-0.313	-0.260	0.132	0.002	-0.461	0.238	-0.256	-0.295	-0.512	-0.232	0.166
38	-0.389	-0.523	-0.370	0.164	0.369	-0.462	0.344	-0.406	-0.432	-0.340	-0.355	0.395
39	0.190	-0.010	0.031	-0.054	0.251	0.202	0.153	0.121	-0.138	0.004	0.158	-0.149
40	-0.344	-0.454	-0.322	0.164	0.312	-0.405	0.268	-0.299	-0.338	-0.292	-0.332	0.356
41	-0.284	-0.194	-0.098	-0.022	-0.021	-0.317	0.087	0.012	-0.138	-0.266	-0.156	0.101
42	0.138	0.155	0.081	-0.147	-0.250	0.261	-0.091	0.149	0.259	0.291	0.107	-0.123
43	-0.292	-0.420	-0.240	0.123	0.388	-0.344	0.190	-0.330	-0.337	-0.293	-0.239	0.284
44	0.128	0.115	0.017	0.018	0.153	0.033	0.207	0.272	-0.041	-0.038	0.005	-0.053
45	-0.427	-0.476	-0.327	0.140	0.263	-0.503	0.299	-0.368	-0.359	-0.393	-0.287	0.309
46	0.469	0.370	0.499	-0.470	0.088	0.556	-0.373	0.633	0.403	0.453	0.386	-0.427
47	0.171	0.275	0.183	0.045	-0.249	0.181	-0.196	0.091	0.164	0.152	0.166	-0.111
48	-0.285	-0.401	-0.220	0.126	0.158	-0.377	0.143	-0.176	-0.224	-0.325	-0.176	0.189
49	-0.323	-0.252	-0.307	0.289	-0.136	-0.478	0.232	-0.196	-0.171	-0.340	-0.267	0.263
50	0.539	0.467	0.462	-0.294	0.063	0.553	-0.375	0.322	0.292	0.275	0.377	-0.428
51	0.114	0.221	0.171	0.050	-0.281	0.125	-0.211	0.088	0.135	0.119	0.169	-0.098
52	-0.168	-0.278	-0.084	-0.055	0.191	-0.266	0.126	-0.081	-0.154	-0.183	-0.084	0.024
53	-0.483	-0.281	-0.281	0.180	0.214	-0.336	0.188	-0.439	-0.348	-0.382	-0.378	0.343
54	-0.223	-0.118	-0.131	0.046	0.180	-0.065	0.126	-0.191	-0.190	-0.200	-0.179	0.154
55	-0.193	0.039	0.012	0.117	0.097	-0.094	-0.029	-0.200	-0.159	-0.268	-0.138	0.102
56	0.345	0.349	0.341	-0.099	-0.174	0.291	-0.269	0.304	0.242	0.160	0.289	-0.288
57	-0.214	0.038	-0.032	0.201	-0.007	-0.121	0.006	-0.228	-0.164	-0.235	-0.140	0.155
58	-0.133	0.034	0.064	-0.006	0.207	-0.044	-0.067	-0.132	-0.126	-0.261	-0.111	0.021
59	-0.176	-0.007	-0.127	0.263	-0.253	-0.129	0.061	-0.161	-0.079	-0.020	-0.059	0.189
60	-0.371	-0.143	-0.158	0.153	0.184	-0.223	0.102	-0.347	-0.282	-0.352	-0.285	0.246
61	-0.371	-0.143	-0.158	0.153	0.184	-0.223	0.102	-0.347	-0.282	-0.352	-0.285	0.246

Numbers in the first column correspond to numbers in the first row; 1, overall aroma intensity; 2, gamey aroma; 3, beef-like aroma; 4, metallic aroma; 5, liver-like aroma; 6, herbaceous aroma; 7, off, sour, sweat-like aroma; 8, sweet-associated aroma; 9, overall flavour intensity; 10, gamey flavour; 11, beef-like flavour; 12, metallic flavour; 13, liver-like flavour; 14, herbaceous flavour; 15, off, sour, sweat-like flavour; 16, sweet associated taste; 17, salty taste; 18, sour taste; 19, initial juiciness; 20, sustained juiciness; 21, tenderness; 22, residue; 23, mealiness; 24, Warner-Bratzler shear force; 25, thaw loss percentage; 26, cooking loss percentage; 27, C6:0; 28, C8:0; 29, C10:0; 30, C12:0; 31, C14:0; 32, C15:0; 33, C16:0; 34, C18:0; 35, C20:0; 36, C22:0; 37, C24:0; 38, C14:1; 39, C15:1; 40, C16:1; 41, C17:1; 42, C18:1n9c; 43, C20:1; 44, C18:2n9c; 45, C18:3n6; 46, C18:3n3; 47, C20:2n6; 48, C20:3n6; 49, C20:3n3; 50, C20:5n3; 51, C22:2n6; 52, C22:6n3; 53, total SFA; 54, total MUFA; 55, total PUFA; 56, PUFA:SFA ratio; 57, n6; 58, n3; 59, n6:n3 ratio; 60, total fatty acids; 61, intramuscular fat content. The non-shaded area indicates Pearson correlation coefficients (*r*); area shaded in grey indicates corresponding P-values for Pearson correlation coefficients (*r*).

Table S1 Continued.

Variable	13	14	15	16	17	18	19	20	21	22	23	24
1	0.247	<0.001	0.027	0.000	0.845	0.797	0.807	0.666	0.912	0.916	0.675	0.868
2	0.346	<0.001	0.025	0.000	0.476	0.418	0.573	0.967	0.943	0.842	0.564	0.580
3	0.042	<0.001	<0.001	<0.001	0.766	0.224	0.648	0.644	0.207	0.195	0.131	0.165
4	0.094	<0.001	0.005	<0.001	0.903	0.094	0.436	0.977	0.025	0.021	0.019	0.015
5	0.301	0.047	0.003	0.011	0.267	0.119	0.178	0.377	0.947	0.972	0.596	0.613
6	0.037	<0.001	0.002	<0.001	0.990	0.049	0.518	0.638	0.407	0.126	0.046	0.257
7	0.279	0.000	<0.001	0.000	0.827	0.624	0.773	0.093	0.602	0.582	0.903	0.221
8	0.100	<0.001	0.007	0.001	0.702	0.694	0.816	0.634	0.833	0.540	0.149	0.620
9	0.202	<0.001	0.000	0.000	0.651	0.801	0.240	0.619	0.789	0.915	0.781	0.364
10	0.460	<0.001	0.000	0.003	0.957	0.650	0.558	0.750	0.449	0.625	0.479	0.992
11	0.004	<0.001	<0.001	<0.001	0.888	0.009	0.599	0.863	0.055	0.029	0.007	0.053
12	0.056	<0.001	0.000	<0.001	0.822	0.014	0.497	0.612	0.266	0.323	0.060	0.453
13	1	0.076	0.734	0.025	1.000	0.174	0.941	0.171	0.000	0.001	<0.001	0.005
14	-0.300	1	<0.001	<0.001	0.885	0.063	0.743	0.679	0.587	0.309	0.131	0.370
15	0.059	-0.611	1	<0.001	0.480	0.041	0.995	0.950	0.652	0.861	0.838	0.713
16	-0.374	0.799	-0.671	1	0.656	0.006	0.569	0.766	0.138	0.126	0.015	0.266
17	0.000	0.025	-0.122	0.077	1	0.620	0.779	0.451	0.969	0.499	0.937	0.109
18	0.232	-0.314	0.343	-0.447	0.085	1	0.799	0.863	0.383	0.141	0.269	0.990
19	-0.013	0.056	-0.001	-0.098	-0.048	-0.044	1	0.411	0.712	0.858	0.676	0.808
20	0.233	0.071	0.011	-0.051	-0.130	0.030	0.141	1	<0.001	0.000	0.078	0.007
21	0.569	-0.094	-0.078	-0.252	0.007	0.150	0.064	0.610	1	<0.001	<0.001	<0.001
22	-0.530	0.174	0.030	0.260	0.116	-0.250	0.031	-0.567	-0.916	1	<0.001	<0.001
23	0.692	-0.256	-0.035	-0.401	0.014	0.189	-0.072	0.298	0.838	-0.829	1	0.000
24	-0.460	0.154	-0.063	0.190	0.272	0.002	-0.042	-0.445	-0.745	0.779	-0.577	1
25	0.348	-0.658	0.400	-0.582	0.041	0.487	-0.028	-0.289	0.131	-0.196	0.303	-0.142
26	-0.004	0.178	-0.151	0.156	0.096	-0.161	-0.124	-0.534	-0.354	0.374	-0.176	0.312
27	-0.115	-0.181	0.097	-0.114	0.078	0.365	-0.317	0.192	0.050	-0.190	-0.058	-0.109
28	0.251	-0.388	0.382	-0.438	-0.050	-0.140	-0.200	-0.204	-0.094	0.063	0.159	-0.145
29	0.177	-0.317	0.277	-0.350	-0.002	-0.224	-0.085	-0.283	-0.176	0.144	0.065	-0.038
30	0.210	-0.522	0.412	-0.547	0.008	-0.117	-0.083	-0.276	-0.101	0.044	0.214	-0.020
31	0.210	-0.567	0.418	-0.565	-0.019	0.038	-0.189	-0.119	-0.030	-0.100	0.245	-0.107
32	0.082	-0.058	0.247	-0.169	-0.048	-0.015	-0.159	-0.191	-0.173	0.269	-0.065	0.205
33	0.412	-0.175	0.061	-0.310	0.147	-0.064	-0.001	-0.138	0.234	-0.147	0.427	0.023
34	0.160	0.030	-0.094	0.012	0.246	-0.048	0.098	0.110	0.176	-0.045	0.178	-0.037
35	0.208	-0.527	0.448	-0.551	-0.092	-0.016	-0.191	-0.121	-0.051	-0.032	0.247	-0.122
36	-0.093	0.118	-0.002	0.025	-0.013	-0.108	-0.122	0.160	0.009	-0.037	0.021	-0.085
37	-0.045	-0.424	0.329	-0.305	-0.226	0.069	-0.269	0.008	-0.153	0.051	-0.041	-0.097
38	0.192	-0.477	0.434	-0.516	-0.061	-0.047	-0.185	-0.127	-0.068	-0.022	0.215	-0.086
39	-0.009	0.016	0.091	0.034	-0.104	-0.301	0.022	0.125	-0.073	0.091	-0.051	-0.156
40	0.285	-0.446	0.366	-0.544	-0.097	0.019	-0.209	0.050	0.081	-0.111	0.314	-0.167
41	0.049	-0.256	0.304	-0.172	-0.167	0.170	-0.340	0.005	-0.080	0.110	-0.064	0.003
42	0.338	0.222	-0.123	0.045	0.123	-0.024	-0.061	0.225	0.296	-0.125	0.283	-0.004
43	0.105	-0.381	0.323	-0.382	-0.126	-0.176	-0.125	-0.177	-0.132	0.075	0.189	-0.048
44	-0.213	0.046	0.289	-0.010	-0.288	0.231	-0.045	0.073	0.007	-0.041	-0.177	-0.266
45	0.098	-0.472	0.383	-0.470	-0.087	0.002	-0.263	-0.109	-0.109	0.029	0.154	-0.078
46	-0.144	0.477	-0.252	0.260	-0.037	0.032	0.023	0.228	0.145	-0.106	-0.031	0.013
47	-0.280	0.215	-0.302	0.310	0.125	0.126	0.246	0.006	-0.094	0.076	-0.323	0.163
48	0.018	-0.400	0.296	-0.388	-0.299	0.006	-0.249	0.048	-0.038	-0.081	0.130	-0.204
49	0.046	-0.378	0.211	-0.225	-0.223	0.324	-0.177	0.064	0.034	-0.148	-0.014	-0.263
50	-0.306	0.525	-0.325	0.599	0.004	-0.292	0.203	-0.170	-0.189	0.192	-0.236	0.258
51	-0.278	0.170	-0.279	0.276	0.051	0.138	0.230	0.028	-0.110	0.070	-0.338	0.152
52	0.063	-0.268	0.208	-0.274	-0.125	0.012	-0.262	0.068	0.010	-0.102	0.174	-0.199
53	0.254	-0.340	0.325	-0.303	0.277	-0.023	0.102	-0.321	-0.188	0.255	0.023	0.256
54	0.288	-0.154	0.280	-0.184	0.202	-0.072	0.056	-0.100	-0.088	0.219	0.052	0.186
55	-0.095	-0.079	0.101	0.082	0.221	0.059	0.252	-0.316	-0.342	0.349	-0.333	0.331
56	-0.409	0.303	-0.254	0.419	-0.119	0.130	0.133	0.077	-0.124	0.040	-0.379	0.053
57	-0.132	-0.097	0.064	0.044	0.234	0.134	0.286	-0.256	-0.308	0.315	-0.370	0.304
58	-0.034	-0.043	0.129	0.114	0.166	-0.043	0.167	-0.333	-0.324	0.330	-0.230	0.307
59	-0.153	-0.090	-0.056	-0.062	0.148	0.214	0.243	0.028	-0.072	0.083	-0.256	0.101
60	0.132	-0.234	0.259	-0.144	0.277	0.004	0.179	-0.326	-0.270	0.330	-0.136	0.316
61	0.132	-0.234	0.259	-0.144	0.277	0.004	0.179	-0.326	-0.270	0.330	-0.136	0.316

Numbers in the first column correspond to numbers in the first row; 1, overall aroma intensity; 2, gamey aroma; 3, beef-like aroma; 4, metallic aroma; 5, liver-like aroma; 6, herbaceous aroma; 7, off, sour, sweat-like aroma; 8, sweet-associated aroma; 9, overall flavour intensity; 10, gamey flavour; 11, beef-like flavour; 12, metallic flavour; 13, liver-like flavour; 14, herbaceous flavour; 15, off, sour, sweat-like flavour; 16, sweet associated taste; 17, salty taste; 18, sour taste; 19, initial juiciness; 20, sustained juiciness; 21, tenderness; 22, residue; 23, mealliness; 24, Warner-Bratzler shear force; 25, thaw loss percentage; 26, cooking loss percentage; 27, C6:0; 28, C8:0; 29, C10:0; 30, C12:0; 31, C14:0; 32, C15:0; 33, C16:0; 34, C18:0; 35, C20:0; 36, C22:0; 37, C24:0; 38, C14:1; 39, C15:1; 40, C16:1; 41, C17:1; 42, C18:1n9c; 43, C20:1; 44, C18:2n9c; 45, C18:3n6; 46, C18:3n3; 47, C20:2n6; 48, C20:3n6; 49, C20:3n3; 50, C20:5n3; 51, C22:2n6; 52, C22:6n3; 53, total SFA; 54, total MUFA; 55, total PUFA; 56, PUFA:SFA ratio; 57, n6; 58, n3; 59, n6:n3 ratio; 60, total fatty acids; 61, intramuscular fat content. The non-shaded area indicates Pearson correlation coefficients (r); area shaded in grey indicates corresponding P-values for Pearson correlation coefficients (r).

