Supplementary material for Estruch et al., "Inclusion of alternative marine by-products in aquafeeds with different levels of plant-based sources for on-growing gilthead sea bream (*Sparus aurata*, L.): effects on digestibility, amino acid retention, ammonia excretion and enzyme activity," *Archives of Animal Nutrition*, 2018.

S1. Essential and non-essential amino acid profile of the different aqua feed ingredients [g·100g dry matter^{-1}]

	FM	WM	WG	BM	SBM	PM	SFM	SM	KM
EAA [g·100g dry matter^{-1}]									
Arginine	5.86	0.38	2.57	1.99	3.66	1.76	3.33	5.90	4.14
Histidine	2.54	0.26	1.45	0.74	1.42	0.58	1.14	1.85	1.26
Isoleucine	3.40	0.36	3.01	1.03	2.33	0.98	1.56	2.28	3.19
Leucine	6.55	0.80	5.79	2.04	4.22	1.78	2.48	4.16	4.67
Lysine	6.01	0.37	1.21	1.92	3.45	1.92	1.39	3.85	3.77
Methionine	2.30	0.22	0.88	0.31	0.92	0.36	1.00	1.76	1.66
Phenylalanine	3.73	0.49	4.31	1.10	2.60	1.11	1.86	2.14	2.97
Threonine	3.55	0.30	1.95	0.94	1.98	0.86	1.52	2.19	2.74
Valine	3.88	0.47	3.26	1.13	2.30	1.06	1.73	2.70	3.12
NEAA [g·100g dry matter^{-1}]									
Alanine	4.32	0.43	2.00	1.10	2.16	0.96	1.30	3.90	3.25
Aspartate	6.97	0.65	2.23	2.91	6.54	2.72	3.55	5.15	5.92
Cysteine	0.56	0.20	1.12	0.24	0.47	0.24	0.65	0.56	0.37
Glutamine	10.00	3.40	31.98	4.65	10.67	4.23	7.51	9.27	7.39
Glycine	4.26	0.48	2.45	1.15	2.11	0.97	2.49	7.98	2.73
Proline	2.86	1.09	10.82	1.00	2.46	0.85	1.6	4.17	2.26
Serine	3.41	0.53	3.67	1.36	2.74	1.11	1.85	2.86	2.43
Tyrosine	2.67	0.08	2.29	0.47	1.41	0.40	0.74	1.38	2.68
EAA/NEAA	1.08	0.53	0.43	0.87	0.80	0.84	0.91	0.76	1.02

FM, fishmeal; WM, wheat meal; WG, wheat gluten; BM, bean meal; SBM, soybean meal; PM, pea meal; SFM, sunflower meal; SM, squid meal; KM, krill meal; EAA, essential amino acids; NEAA, non-essential amino acids

S2. Biochemical and amino acid body composition of the initial gilthead seabream and those one fed experimental diets

	Initial	FM100	FM50	FM25+	FM25	FM0+	FM0	SEM
Biochemical (%)								
Moisture	64.2	62.3	64.4	64.0	64.2	63.1	64.4	0.72
CP	47.0	47.0	49.6	49.6	49.3	49.6	50.4	1.30
CL	44.9	42.8	41.6	41.4	40.7	40.3	39.7	1.25
CA	8.3	7.2	8.2	7.7	8.9	8.7	9.0	0.72
EAA (g 100 g wet weight^{-1})								
Arginine	1.61	1.47	1.37	1.59	1.56	1.72	1.54	0.099
Histidine	0.36	0.39	0.39	0.42	0.40	0.45	0.38	0.023
Isoleucine	0.50	0.65	0.63	0.68	0.64	0.71	0.66	0.033
Leucine	1.20	1.16	1.14	1.18	1.14	1.25	1.16	0.050
Lysine	1.27	1.42	1.33	1.38	1.29	1.36	1.38	0.072
Methionine	0.41	0.47	0.47	0.47	0.45	0.49	0.44	0.026
Phenylalanine	0.60	0.58	0.58	0.63	0.58	0.67	0.55	0.028
Threonine	0.72	0.66	0.79	0.69	0.66	0.73	0.65	0.066
Valine	0.67	0.81	0.80	0.85	0.81	0.89	0.82	0.033
NEAA (g 100 g wet weight^{-1})								
Alanine	1.07	1.07	1.10	1.11	1.06	1.13	1.08	0.033
Aspartate	1.57	1.61	1.58	1.61	1.51	1.62	1.60	0.073
Cysteine	0.07	0.13	0.16	0.13	0.13	0.15	0.11	0.019
Glutamine	2.33	2.41	2.34	2.45	2.34	2.53	2.43	0.091
Glycine	1.24	1.25	1.39	1.35	1.30	1.46	1.30	0.110
Proline	0.75	0.70	0.78	0.77	0.75	0.79	0.78	0.046
Serine	0.70	0.59	0.57	0.58	0.58	0.62	0.58	0.022
Tyrosine	0.44	0.42	0.41	0.45	0.44	0.49	0.40	0.021
EAA/NEAA	0.90	0.93	0.90	0.93	0.93	0.94	0.92	0.029

CP, crude protein; CL, crude lipids; CA, crude ash; EAA, essential amino acids; NEAA, non-essential amino acids

Moisture (%) = 1 – % Dry Matter; CP (% dry weight); CL (% dry weight); A (% dry weight)

Means of triplicate groups (n=3). SEM: pooled standard error of the mean. Newman-Keuls test was applied for the comparison of the means.