Supplementary material

Table S1: Diet amino acid contents for tested diets.

Amino acid content (%DM)	CTRL	PAP	NO PAP	NO PAP +	PAP -
Arginine (Arg)	2.59	2.57	2.46	2.71	2.41
Histidine (His)	1.00	1.02	0.94	1.03	0.99
Isoleucine (Ile)	1.85	1.74	1.79	1.93	1.49
Leucine (Leu)	3.22	3.18	3.11	3.34	2.96
Lysine (Lys)	2.70	2.71	2.71	2.77	2.70
Threonine (Thr)	1.60	1.72	1.71	1.83	1.64
Tryptophan (Trp)	0.57	0.58	0.53	0.63	0.53
Valine (Val)	1.96	1.97	1.94	2.03	1.85
Methionine (Met)	0.96	0.74	0.79	0.92	0.73
Cystine (Cys)	0.64	0.62	0.70	0.67	0.59
Phenylalanine (Phe)	2.05	2.11	2.01	2.09	1.92
Tyrosine (Tyr)	1.42	1.39	1.50	1.57	1.16
Aspartic acid + Asparagine (Asx)	3.66	3.45	3.50	3.84	3.11
Glutamic acid + Glutamine (Glx)	9.23	8.84	9.00	9.32	7.80
Alanine (Ala)	1.83	1.84	1.81	1.92	1.77
Glycine (Gly)	1.93	1.98	1.89	2.12	1.78
Proline (Pro)	2.82	3.00	2.70	3.04	2.41
Serine (Ser)	2.06	2.02	1.92	2.19	1.85

Table S2: Diet fatty acid contents for tested diets.

Fatty acid (%DM)	CTRL	PAP	NO PAP	NO PAP +	PAP -
C14:0	0.49	0.35	0.31	0.35	0.32
C16:0	1.94	2.30	1.92	2.18	2.11
C18:0	0.46	0.47	0.39	0.43	0.43
Other Saturated	0.32	0.34	0.28	0.32	0.31
Sum Saturated	**3.22**	**3.46**	**2.90**	**3.27**	**3.16**
C16:1n-7	0.69	0.44	0.38	0.41	0.39
C18:1n-7	0.68	0.68	0.60	0.62	0.63
C18:1n-9	9.82	11.35	9.92	10.18	10.50
C20:1n-9	0.31	0.25	0.27	0.26	0.24
C22:1n-11	0.15	0.02	0.06	0.08	0.02
Other Monounsaturated	0.10	0.07	0.08	0.08	0.05
Sum Monounsaturated	**11.74**	**12.81**	**11.29**	**11.62**	**11.84**
C18:2n-6	3.24	3.76	3.30	3.38	3.46
C18:3n-3	1.07	1.24	1.10	1.14	1.15
C20:4n-6	0.06	0.09	0.00	0.10	0.08
C20:5n-3	1.33	1.09	0.00	1.20	1.00

C22:5n-3	0.14	0.11	0.10	0.12	0.10
C22:6n-3	0.56	1.16	1.03	1.38	1.06
Other Polyunsaturated	0.23	0.08	1.13	0.18	0.09
Sum Polyunsaturated	**6.63**	**7.52**	**6.65**	**7.50**	**6.94**
Non identified	**0.13**	**0.13**	**0.12**	**0.11**	**0.12**

Table S3: Whole body composition (mean ± SD) of fish fed the five different dietary groups.

	CTRL	**PAP**	**NoPAP**	**NoPAP+**	**PAP-**
DM, %	29.33±1.06	29.10±0.36	28.15±0.37	28.55±0.56	28.75±0.44
Ash, %	4.70±0.00	4.70±0.00	4.61±0.17	4.87±0.34	4.61±0.17
Protein, %	53.52±1.04	51.68±0.82	52.77±1.17	54.45±0.50	51.51±2.46
Fat, %	40.10±1.79	41.78±0.80	38.93±2.14	38.51±1.91	40.77±1.24
Energy, kJ/g	28.78±0.41	29.03±0.19	28.49±0.42	28.46±0.41	28.82±0.32
Phosphorus, %	0.84±0.06	0.81±0.03	0.84±0.00	0.91±0.05	0.82±0.03

Initial fish: DM 23.73%; ash 6.61%; protein 68.48%; fat 24.44%; energy 25.94kJ/g; phosphorous 1.15%.
(n=4; one-way ANOVA).

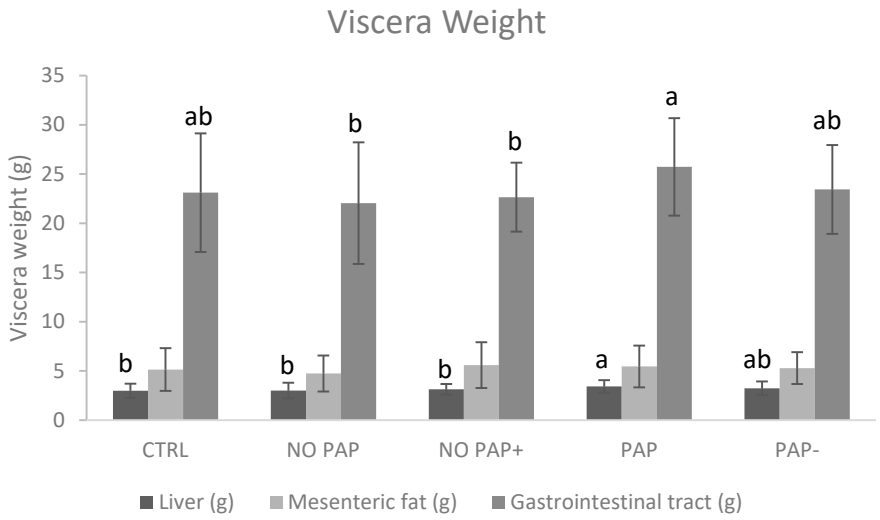

Figure S1: Mean weight of liver, gastrointestinal tract and mesenteric fat of rainbow trout fed the experimental diets (n=20). The sum of these three components represents roughly the whole viscera weight.

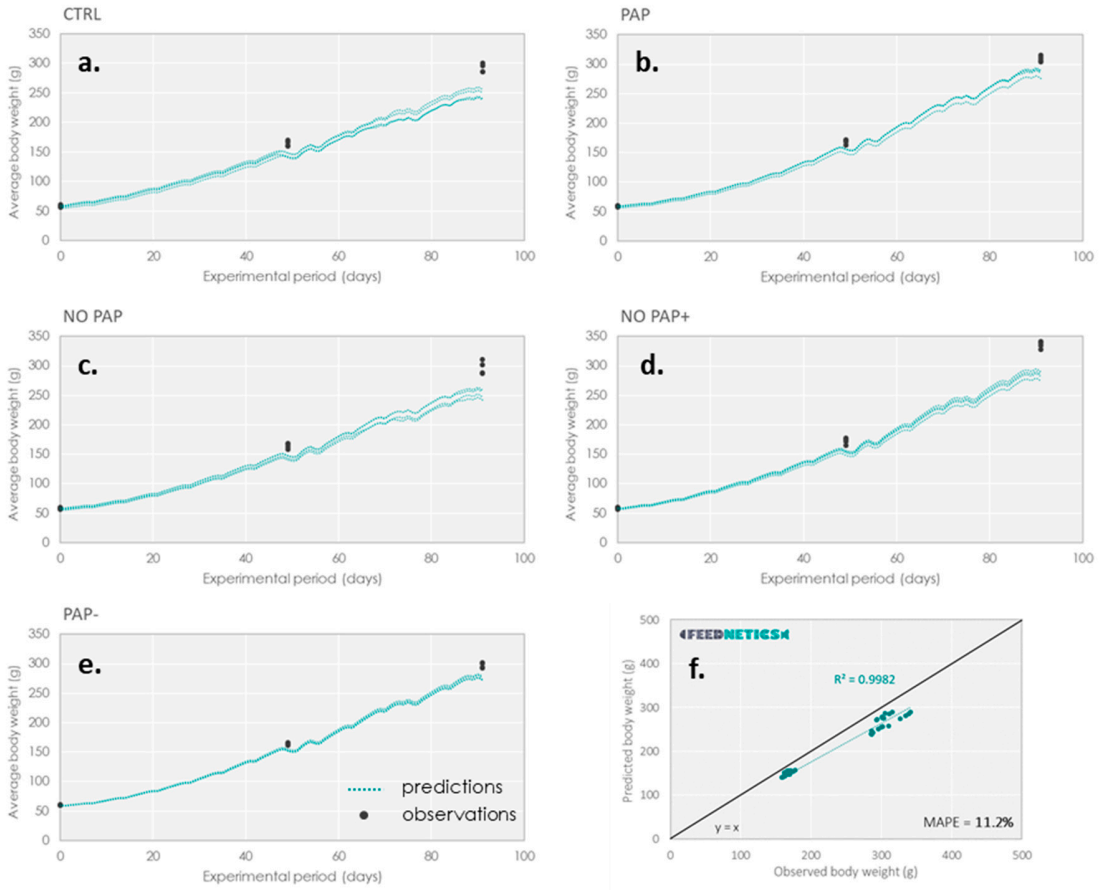

Figure S2: Model validation results for trial conditions. The charts a-e present the fish growth over the experimental period, where the dashed lines represent the fish growth predicted by the model and the points the average fish weight observed in the trial. The chart f presents the comparison between the predicted-observed value pairs and the mean absolute percentage error (MAPE).