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Effects of feed loading on n recirculating aquaculture sy Four levels of feed loa constant make up wat	itrogen balar /stems ading contr ter of 4.8%	olled by da v/d.	performance aily feed qu	e in replicated Jantity and	l		
Table 1 Four experimental treatment	groups based	on fixed quan	tities of daily	added feedª.			
Table 1 Four experimental treatment	groups based	on fixed quan	tities of daily	added feed ^a .			







	rreatment groups		Effect ^d	Linear		
	125 g/d	250 g/d	375 g/d	500 g/d		reg. (R ²)
Vater						
TAN (mg/L)	0.10 ± 0.03	0.20 ± 0.06	0.26 ± 0.08	0.41 ± 0.09	***	0.90
NO ₂ -N (mg/L)	0.20 ± 0.14	0.33 ± 0.10	0.53 ± 0.18	0.55 ± 0.21	n.s.	0.46
NO ₃ -N (mg/L)	53.7 ± 7.1	101 ± 12.4	146 ± 12.9	196 ± 10.4	•••	0.99
COD _{tot} (mg/L)	26 ± 3	57 ± 4	69 ± 14	74±8	•••	0.74
TSS (mg/L)	8.59 ± 3.4	19.6 ± 3.7	25.1 ± 8.5	17.4 ± 3.7		0.22 ^{n.s.}
Turbidity/visibility (cm)	>50	47.3 ± 2.1	35.0 ± 1.9	29.8 ± 2.4		0.90
Alkalinity (meq/L) Biofilter loading ^a	1.9 ± 0.1	2.4 ± 0.2	3.2 ± 0.5	3.6 ± 0.5		0.75
p _{TAN} (g TAN/d) ^b	3.5	6.9	10.4	13.8		
COD(g/d)	33	66	99	132		
$BOD_5(g/d)$	9	19	28	38		
ish performance						
Mortality	0	0	0	0		
FCR	0.91 ± 0.04	0.95 ± 0.02	0.92 ± 0.02	0.95 ± 0.02	n.s.	
SGR (%/d)	1.49 ± 0.05	1.45 ± 0.03	1.50 ± 0.03	1.45 ± 0.03	n.s.	
$TGC^{c}(g/^{\circ} \cdot d)$	1.55 ± 0.06	1.47 ± 0.09	1.56 ± 0.04	1.50 ± 0.06	n.s.	
SGR (%/d) TGC ^c (g/°·d)	1.49 ± 0.05 1.55 ± 0.06	1.45 ± 0.03 1.47 ± 0.09	1.50 ± 0.03 1.56 ± 0.04	1.45 ± 0.03 1.50 ± 0.06	n.s. n.s.	



























Expe	DTU					
Experin	nental cor	nditions a	at steady	state		=
Exp. cor	nditions		Water	quality		
Fish biomass	125-175	kg	Temp.	18-20	°C	
Density	23-32	Kg/m ³	O ₂	> 8	mg O ₂ /I	
Daily feed	1000	g	рН	7.7-7.9	pH set point at 7.8	
System volume	8.5	m ³	Alka- linity	2.5 125	meq/l mg CaCO ₃ /l	
Tank vol.	5.5	m ³				
Make-up water	0.8 – 1.4	m³/d				
NH₄CI suppl.	500	g / d				THE REAL P
Feed loading	0.7-1.3	Kg/m ³				
N-Feed loading*	3.6-6.2	kg/m ³				





Selected analysis		Range	(N=14)
construct analysis	Mean	Min	Max
TAN	0.47	0.08	0.64
Nitrit-N	0.36	0.21	0.77
Nitrate-N	212	154	291
Alkalinity	2.46	1.96	3.56
CODtotal	40.6	20.00	57.5
CODdiss	23.3	19.40	27.5
BactiQ	38900	6100	63500
H ₂ O ₂ rate	1.89	0.24	4.55
H ₂ O ₂ mg/h	9.82	2.50	18.8
KMnO4	3.9	2.00	5
Part. #/ml	3389	1418	4874
Part. surface	3.49	0.79	6.03
Susp.	10.70	3.9	25
UVtotal	0.35	0.131	0.526
Trans	46.42	29.78	73.88
OD ₆₅₀	0.02	0.004	0.037

RAS water quality case study								DTU	
Days		9880 8	° ° ° ° ° ° °	000 0	0 0000 0000 0000	00000	e °°°°	0,000 0,000 0	Ħ
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BQ	0000 000000000000000000000000000000000	000 0000 0000	္ဂ၀၀ ၀၀၀	0000 0000 0000 0000 0000 0000 0000 0000 0000	୍ଦ୍	0 0000 0 0000	00	800 S	rate significantly correlated with
H202_Rate	ତ ୧୦୦୦୦ ୧୦୦୦୦	00 0000 0000	ංං ද ු දිලි	8000 O	00 8	8	000000000		Nitrate, COD, OD, BQ and KMnO ₄
	Days	Nitrat	COD	Susp	0 D	KMnO4	BQ	H2O2_Rate	



