

7. APPENDIX

Appendix 1. Analysis of variance of body weight at weeks 12, 16, 18, 22, 24, 28 and 30

Times		12	16	18	22	24	28	30
Source of variation	df	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F
Diet	1	**	**	**	**	**	**	**
Strain	2	**	**	**	**	**	**	**
D x S	2	**	**	**	**	**	**	**
Error	2114	748.040	990.279	1183.376	177.877	211.362	2368.243	360.455

** Significant ($p \leq 0.01$)
Error variances are given

Appendix 2. Analysis of variance of body length at weeks 12, 16, 18, 22, 24, 28, and 30

Time		12	16	18	22	24	28	30
Source of variation	df	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F
Diet	1	**	**	**	**	**	**	**
Strain	2	**	**	**	**	**	**	**
D x S	2	**	**	**	**	**	**	**
Error	2114	11.336	21.090	38.476	2.824	2.911	32.831	4.389

** Significant ($p \leq 0.01$)
Error variances are given

Appendix 3. Analysis of variance of standard length at weeks 12, 16, 18, 22, 24, 28 and 30

Time	12	16	18	22	24	28	30	
Source of variation	df	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F
Diet	1	**	**	**	**	**	**	**
Strain	2	**	**	**	**	**	**	**
D x S	2	**	**	**	**	**	**	**
Error	2114	17.409	11.508	36.917	1.765	1.785	5.919	2.140

** Significant ($p \leq 0.01$)

Error variances are given

Appendix 4. Analysis of variance of head length at weeks 12, 16, 18, 22, 24, 28 and 30

Time	12	16	18	22	24	28	30	
Source of variation	df	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F
Diet	1	**	**	**	**	**	**	**
Strain	2	**	**	**	**	**	**	**
D x S	2	**	**	**	**	**	**	**
Error	2114	0.184	0.278	0.303	0.215	0.225	0.244	0.239

** Significant ($p \leq 0.01$)

Error variances are given

Appendix 5. Analysis of variance of Feed consumption at weeks 12, 16, 18, 22, 24, 28 and 30

Times		12	16	18	22	24	28	30
Source of variation	df	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F	Sig of F
Diet	1	0.445	**	0.019	**	**	**	**
Strain	2	0.040	**	0.013	**	**	0.011	**
D x S	2	**	**	0.021	0.396	0.436	0.472	0.206
Error	12	23.14	23.14	23.14	23.14	532.22	532.22	795.72

** Significant ($p \leq 0.01$)

Appendix 6. Analysis of variance of Feed conversion ratio at weeks 12, 16, 18, 22 and 28

Time		12	16	18	22	26	28
Source of variation	df	MS	MS	MS	MS	MS	MS
Diet	1	1.36	0.10	0.02	0.01	0.30	1.23
Strain	2	0.95	0.15	0.05	0.02	0.03	0.11
D x S	2	0.03	0.45	0.10	0.06	0.03	0.10
Error	12	0.45	0.22	0.14	0.20	0.19	0.38

Appendix 7. Mean and standard error of body weight at week 12, 16, 18, 22, 24, 28 and 30

Diet Strain	Week							
	12	16	18	22	24	28	30	
UF	<i>O.m</i>	9.93 ^a ± 0.70	16.52 ^a ± 1.81	20.60 ^a ± 0.50	35.66 ^a ± 1.17	43.73 ^a ± 1.37	61.60 ^a ± 1.76	68.16 ^a ± 1.87
	<i>O.np</i>	12.24 ^b ± 0.37	28.51 ^b ± 2.34	34.41 ^b ± 2.68	50.49 ^b ± 1.16	61.46 ^b ± 1.30	77.94 ^b ± 1.72	84.84 ^b ± 1.69
	<i>O.nl</i>	15.68 ^b ± 0.70	32.29 ^b ± 0.83	37.30 ^b ± 0.97	50.11 ^b ± 2.16	61.83 ^b ± 2.51	83.34 ^b ± 3.50	83.93 ^b ± 4.49
CF	<i>O.m</i>	9.71 ^a ± 0.43	12.92 ^a ± 0.44	14.99 ^a ± 0.28	20.16 ^a ± 0.67	23.31 ^a ± 0.75	42.68 ^a ± 8.09	32.56 ^a ± 2.00
	<i>O.np</i>	14.39 ^b ± 0.37	18.08 ^b ± 0.89	25.73 ^b ± 1.82	37.67 ^b ± 0.67	40.31 ^b ± 0.75	48.68 ^b ± 8.09	59.26 ^b ± 1.85
	<i>O.nl</i>	14.24 ^b ± 0.33	17.94 ^b ± 0.68	25.03 ^b ± 1.80	28.91 ^b ± 2.40	39.99 ^b ± 2.50	48.00 ^b ± 3.47	52.56 ^b ± 4.49

^{a,b} Different superscripts within column within diet indicate significant differences between means ($p \leq 0.05$)

Appendix 8. Mean and standard error of body length at weeks 12, 16, 18, 22, 24, 28 and 30

Week		12	16	18	22	24	28	30
Diet Strain								
UF	<i>O.m</i>	7.61 ^a ±0.17	9.25 ^a ±0.24	10.16 ^a ±0.18	12.36 ^a ±0.16	13.15 ^a ±0.17	14.63 ^a ±0.21	15.67 ^a ±0.24
	<i>O.np</i>	7.99 ^a ±0.08	10.98 ^b ±0.31	12.74 ^b ±0.47	14.17 ^b ±0.12	15.21 ^b ±0.11	16.84 ^b ±0.24	16.83 ^b ±0.12
	<i>O.nl</i>	9.57 ^b ±0.13	11.93 ^b ±0.12	12.99 ^b ±0.13	14.04 ^b ±0.21	15.11 ^b ±0.20	16.88 ^b ±0.24	16.78 ^b ±0.27
CF	<i>O.m</i>	6.39 ^a ±0.21	7.16 ^a ±0.19	9.13 ^a ±0.08	9.16 ^a ±0.12	10.80 ^a ±0.13	13.03 ^a ±0.80	12.05 ^a ±0.16
	<i>O.np</i>	6.43 ^a ±0.13	8.90 ^b ±0.15	10.80 ^b ±0.23	12.58 ^b ±0.17	13.29 ^b ±0.17	14.35 ^b ±0.19	14.93 ^b ±0.20
	<i>O.nl</i>	6.43 ^a ±0.13	8.90 ^b ±0.15	10.42 ^b ±0.13	11.69 ^b ±0.36	13.21 ^b ±0.34	14.28 ^b ±0.45	14.83 ^b ±0.49

^{a,b} Different superscripts within column within diet indicate significant differences means ($p \leq 0.05$)

Appendix 9. Mean and standard error of standard length at weeks 12, 16, 18, 22, 24, 28 and 30

Week		12	16	18	22	24	28	30
UF	<i>Om</i>	6.10 ^a ±0.18	7.40 ^a ±0.18	8.04 ^a ±0.15	9.85 ^a ±0.13	10.50 ^a ±0.13	11.57 ^a ±0.17	12.18 ^a ±0.12
	<i>Op</i>	6.92 ^b ±0.25	8.75 ^b ±0.25	10.53 ^b ±0.47	11.25 ^b ±0.09	11.87 ^b ±0.08	12.99 ^b ±0.27	13.13 ^b ±0.10
	<i>Ol</i>	7.50 ^b ±0.11	9.66 ^b ±0.10	10.36 ^b ±0.10	11.13 ^b ±0.18	11.71 ^b ±0.15	13.09 ^b ±0.17	13.23 ^b ±0.21
CF	<i>Om</i>	5.12 ^a ±0.19	6.92 ^a ±0.06	7.28 ^a ±0.06	8.06 ^a ±0.10	8.55 ^a ±0.11	9.26 ^a ±0.22	9.44 ^a ±0.14
	<i>Op</i>	6.68 ^b ±0.20	7.65 ^b ±0.11	8.29 ^b ±0.17	9.95 ^b ±0.14	10.55 ^b ±0.13	11.57 ^b ±0.14	12.11 ^b ±0.15
	<i>Ol</i>	6.08 ^b ±0.12	7.31 ^b ±0.14	9.88 ^b ±0.17	9.88 ^b ±0.29	10.09 ^b ±0.30	11.13 ^b ±0.41	12.03 ^b ±0.41

a,b Different superscripts within column within diet indicate significant differences between means ($p \leq 0.05$)

Appendix 10. Mean and standard error of head length at weeks 12, 16, 18, 22, 24, 28 and 30

Diet Strain		Week						
		12	16	18	22	24	28	30
UF	<i>O.m</i>	1.89 ^a ±0.02	2.45 ^a ±0.02	2.62 ^a ±0.02	3.16 ^a ±0.02	3.41 ^a ±0.05	3.79 ^a ±0.05	3.92 ^a ±0.05
	<i>O.np</i>	2.08 ^b ±0.02	2.63 ^b ±0.03	2.86 ^b ±0.03	3.62 ^b ±0.04	3.83 ^b ±0.03	4.16 ^b ±0.03	4.26 ^b ±0.03
	<i>O.nl</i>	2.58 ^b ±0.03	3.13 ^b ±0.03	3.30 ^b ±0.03	3.72 ^b ±0.04	3.93 ^b ±0.04	4.29 ^b ±0.05	4.34 ^b ±0.07
CF	<i>O.m</i>	1.01 ^a ±0.02	2.30 ^a ±0.02	2.48 ^a ±0.02	2.73 ^a ±0.03	2.89 ^a ±0.04	3.19 ^a ±0.04	3.24 ^a ±0.04
	<i>O.np</i>	2.03 ^b ±0.02	3.32 ^b ±0.02	3.10 ^b ±0.02	3.26 ^b ±0.04	3.40 ^b ±0.05	3.80 ^b ±0.04	3.83 ^b ±0.03
	<i>O.nl</i>	2.66 ^b ±0.04	3.08 ^b ±0.05	3.13 ^b ±0.09	3.18 ^b ±0.07	3.55 ^b ±0.08	3.76 ^b ±0.13	3.80 ^b ±0.07

^{a,b} Different superscripts within column within diet indicate significant differences between means ($p \leq 0.05$)

Appendix 11. Mean and standard error of feed consumption at weeks 4, 8, 10, 14, 16, 20 and 22.

Week		4	8	10	14	16	20	22
Diet Strait								
UF	<i>Om</i>	19.15 ^a ± 3.67	31.57 ^a ± 2.49	38.28 ^a ± 3.26	64.61 ^a ± 8.82	78.19 ^a ± 12.3	105.9 ^a ± 17.0	108.23 ^a ± 18.7
	<i>Oop</i>	26.51 ^b ± 1.35	47.43 ^b ± 4.81	56.77 ^b ± 7.84	95.07 ^b ± 11.4	105.1 ^b ± 12.5	138.4 ^b ± 14.38	158.41 ^b ± 4.38
	<i>Onl</i>	48.72 ^b ± 0.01	68.09 ^b ± 0.10	77.06 ^b ± 0.08	105.06 ^b ± 0.04	110.3 ^b ± 0.09	145.9 ^b ± 0.11	170.10 ^b ± 0.10
CF								
	<i>Om</i>	12.61 ^a ± 3.67	28.36 ^a ± 3.32	36.20 ^b ± 3.50	39.29 ^b ± 3.50	42.14 ^b ± 3.97	50.21 ^b ± 4.51	61.01 ^b ± 5.36
	<i>Oop</i>	28.28 ^b ± 1.35	36.93 ^b ± 2.38	57.85 ^b ± 3.98	69.34 ^b ± 8.86	74.70 ^b ± 8.46	88.58 ^b ± 8.58	92.65 ^b ± 8.72
	<i>Onl</i>	22.60 ^b ± 0.02	39.89 ^b ± 0.08	48.26 ^b ± 0.02	51.16 ^b ± 0.04	53.76 ^b ± 0.01	61.04 ^b ± 0.07	80.25 ^b ± 0.05

^{a,b} Different superscripts within column within diet indicate significant differences between means ($p \leq 0.05$)

Appendix 12. Mean and standard error of Feed conversion ratio at weeks 6, 10, 12, 16, 18 and 22

		Week					
		6	10	12	16	18	22
UF	Diet Strain						
	<i>O.m</i>	1.73 ^a ± 0.16	1.71 ^a ± 0.13	1.74 ^a ± 0.15	1.79 ^a ± 0.28	1.78 ^a ± 0.31	1.58 ^a ± 0.25
	<i>O.mp</i>	2.11 ^b ± 0.31	1.66 ^a ± 0.16	1.65 ^a ± 0.22	2.00 ^b ± 0.22	2.02 ^b ± 0.20	1.87 ^a ± 0.05
CF	<i>O.nl</i>	2.24 ^b ± 0.02	2.10 ^b ± 0.02	2.06 ^b ± 0.05	1.89 ^a ± 0.05	1.78 ^a ± 0.05	1.83 ^a ± 0.01
	<i>O.m</i>	2.16 ^a ± 0.36	2.12 ^b ± 0.24	1.96 ^a ± 0.22	1.94 ^a ± 0.17	1.80 ^a ± 0.16	1.78 ^a ± 0.58
	<i>O.mp</i>	2.45 ^a ± 0.11	1.94 ^a ± 0.12	1.82 ^a ± 0.12	1.83 ^a ± 0.23	1.72 ^a ± 0.19	1.09 ^a ± 0.33
	<i>O.nl</i>	2.32 ^a ± 0.04	2.00 ^b ± 0.02	1.54 ^a ± 0.01	1.64 ^a ± 0.03	1.61 ^a ± 0.02	1.23 ^a ± 0.01

^{a,b} Different superscripts within column within diet indicate significant differences between means ($p \leq 0.05$)