**Supplementary data**

**Figures**

**A screenshot of a cell phone

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**Figure S1.** Fulton’s condition factor K (*KDRY*) of (a) large and (b) small juvenile Atlantic cod under four feeding rations (starvation [0.0%], low [2.5%], medium [5.0%] and high [10% dry body weight]) (n=24 small size class, 12 large size class tanks). The bold line represents the median. The lower and upper hinges correspond to the first and third quantiles, and the upper and lower whiskers extend to the largest and smallest value within 1.5x the interquartile range. Individual points represent KDRY values by tank.

**A picture containing clock

Description automatically generated**

**Figure S2.** Mean hepatosomatic index (*HSI*) by tank of (a) large and (b) small juvenile Atlantic cod under four feeding rations (starvation [0.0%], low [2.5%], medium [5.0%] and high [10% dry body weight]) (n=24 small size class, 12 large size class tanks). The bold line represents the median. The lower and upper hinges correspond to the first and third quantiles, and the upper and lower whiskers extend to the largest and smallest value within 1.5x the interquartile range. Individual points represent *HSI* values by tank.

**Table S1.** Analysis of Deviance table for the effect of size and ration on Fulton’s condition factor K (*KWET*) over the duration of the experiment. Model was written as a general linear model with repeated measures (tank). Error distribution is Gaussian with an identity link (n=116).

|  |  |  |  |
| --- | --- | --- | --- |
| Explanatory Variable | Chi-square | DF | P-value |
| Intercept | 3206.03 | 1 | <0.001 |
| Ration | 3.77 | 3 | 0.287 |
| Size | 3.71 | 1 | 0.054 |
| Day of Experiment | 150.35 | 1 | <0.0001 |
| Ration x Day of Experiment | 167.89 | 3 | <0.0001 |
| Size x Day of Experiment | 13.70 | 1 | .0002 |

**Table S2.** Analysis of Variance table for the effect of size and ration on change in Fulton’s condition factor K (*ΔKDRY*). Model was written as a general linear model with Gaussian error distribution (n=36).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Explanatory Variable | Sum of Squares | DF | F-Value | P-value |
| Intercept | 0.83 | 1 | 125.13 | <0.0001 |
| Ration | 0.99 | 3 | 49.56 | <0.0001 |
| Size | 0.04 | 1 | 5.94 | 0.02 |
| Residuals | 0.21 | 31 |  |  |

**Table S3.** Analysis of Variance table for the effect of size and ration on change in hepatosomatic index (*ΔHSI*). Model was written as a general linear model with Gaussian error distribution (n=36).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Explanatory Variable | Sum of Squares | DF | F-Value | P-value |
| Intercept | 0.64 | 1 | 12.98 | 0.0015 |
| Ration | 0.0035 | 3 | 0.024 | 0.99 |
| Size | 1.85 | 1 | 37.42 | <0.0001 |
| Residuals | 1.14 | 23 |  |  |

**Table S4.** Analysis of Deviance table for the effect of size and ration on specific growth rate (*SGRW*). Model was written as a general linear mixed effect model with Gaussian error distribution and identity link (n=36).

|  |  |  |  |
| --- | --- | --- | --- |
| Explanatory Variable | Chi-square | DF | P-value |
| Ration | 277.89 | 3 | <0.0001 |
| Size | 0.27 | 1 | 0.606 |
| Day of Experiment | 14.29 | 1 | 0.0002 |

**Table S5.** Analysis of Deviance table for the effect of size and ration on specific growth rate (*SGRL*). Model was written as a general linear mixed effect model with Gaussian error distribution and identity link (n=36).

|  |  |  |  |
| --- | --- | --- | --- |
| Explanatory Variable | Chisquare | DF | P-value |
|  |  |  |  |
| Ration | 42.78 | 3 | <0.0001 |
| Size | 3.37 | 1 | 0.066 |
| Day of Experiment | 4.15 | 1 | 0.041 |

**Table S6.** Analysis of Variance table for the effect of size, ration, and temperature on feeding rate. Model was written as a general linear model with Gaussian error distribution and identity link (n=143).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Explanatory Variable | Sum of Squares | DF | F-Value | P-value |
| Intercept | 2.13 | 1 | 1323.24 | <0.0001 |
| Ration | 0.037 | 2 | 11.51 | <0.0001 |
| Size | 0.0015 | 1 | 0.91 | 0.34 |
| Temperature | 0.45 | 1 | 279.20 | <0.0001 |
| Residuals | 0.16 | 97 |  |  |

**Table S7.** Analysis of Variance table for the effect of size, ration, and temperature on food conversion efficiency (*FCE*). Model was written as a general linear model with Gaussian error distribution and identity link (n=114).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Explanatory Variable | Sum of Squares | DF | F-Value | P-value |
| Intercept | 20.70 | 1 | 66.52 | <0.0001 |
| Ration | 2.79 | 2 | 4.48 | 0.01 |
| Size | 2.23 | 1 | 7.15 | 0.0086 |
| Temperature | 1.07 | 1 | 3.44 | 0.066 |
| Residuals | 33.92 | 109 |  |  |