**Additional file 1.** Fatty acid composition (% total fatty acids) in experimental diets1.

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| --- | --- | --- | --- | --- |
| Fatty acids (%) | Control | LA1% | LA2% | LA4% |
| C14:0 | 0.10 | 0.09 | 0.07 | 0.04 |
| C16:0 | 8.51 | 7.57 | 6.63 | 4.79 |
| C16:1 | 0.49 | 0.43 | 0.37 | 0.24 |
| C18:0 | 2.69 | 2.21 | 1.73 | 0.79 |
| C18:1 | 47.98 | 38.67 | 29.43 | 11.19 |
| C18:2 | 26.15 | 39.34 | 52.45 | 78.31 |
| C18:3 | 6.31 | 5.13 | 3.96 | 1.65 |
| C20:1 | 2.89 | 2.19 | 1.50 | 0.14 |
| C20:2 | 0.07 | 0.06 | 0.04 | 0.01 |
| C22:0 | 0.93 | 0.77 | 0.62 | 0.31 |
| C22:1 | 0.20 | 0.17 | 0.14 | 0.07 |
| C22:2 | 0.57 | 0.44 | 0.32 | 0.08 |
| C24:0 | 0.26 | 0.22 | 0.19 | 0.13 |
| C24:1 | 0.49 | 0.36 | 0.24 | ND |
| Others | 2.36 | 2.35 | 2.31 | 2.25 |

1Control = control group; LA1% = 1% linoleic acid addition group; LA2% = 2% linoleic acid addition group; LA4% = 4% linoleic acid addition group.