**Table S1:** Fatty acid (mg/ kg DW macroalgae) profile of *L. digitata* collected all seasons during the years 2016 and 2017.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fatty acids** | **Year 2016** | | | |  | **Year 2017** | | | |
| **Winter** | **Spring** | **Summer** | **Autumn** |  | **Winter** | **Spring** | **Summer** | **Autumn** |
| **Saturated fatty acids (SFA)** |  |  |  |  |  |  |  |  |  |
| C4:0 | 0.92±0.00 | 0.20±0.06 | nd | 0.12±0.00 |  | 0.06±0.04 | 0.73±0.01 | nd | nd |
| C6:0 | 0.10±0.00 | 0.05±0.01 | nd | nd |  | 0.06±0.00 | 0.02±0.02 | nd | nd |
| C8:0 | 0.15±0.00 | 0.16±0.00 | 0.08±0.00 | 0.11±0.00 |  | 0.04±0.00 | 0.06±0.00 | 0.04±0.00 | 0.21±0.00 |
| C9:0 | 0.05±0.00 | 0.02±0.00 | nd | nd |  | nd | nd | nd | nd |
| C10:0 | 0.24±0.00 | 0.17±0.01 | 0.11±0.00 | 0.19±0.00 |  | 0.22±0.00 | 0.15±0.00 | 0.06±0.01 | 0.20±0.00 |
| C12:0 | 0.34±0.00 | 0.27±0.00 | 0.27±0.00 | 0.18±0.01 |  | 0.73±0.00 | 0.56±0.03 | 0.07±0.00 | 0.03±0.00 |
| C14:0 | 4.75±0.02 | 4.55±0.001 | 4.52±0.01 | 3.84±0.01 |  | 4.18±0.01 | 5.89±0.00 | 4.51±0.01 | 4.24±0.00 |
| C15:0 | 0.34±0.00 | 0.38±0.00 | 0.47±0.00 | 0.36±0.00 |  | 0.27±0.01 | 0.54±0.00 | 0.51±0.00 | 0.33±0.01 |
| C16:0 | 16.78±0.08 | 13.36±0.01 | 17.65±0.11 | 14.35±0.04 |  | 15.43±0.01 | 18.44±0.14 | 16.81±0.07 | 21.32±0.06 |
| C17:0 | 4.31±0.00 | 4.29±0.00 | 4.29±0.00 | 4.16±0.00 |  | 4.15±0.00 | 4.23±0.00 | 4.17±0.00 | 4.06±0.00 |
| C18:0 | 0.42±0.00 | 0.42±0.00 | 0.52±0.00 | 0.39±0.00 |  | 0.49±0.01 | 0.55±0.00 | 0.53±0.00 | 1.20±0.00 |
| C20:0 | 0.21±0.00 | 0.17±0.00 | 0.44±0.01 | 0.21±0.00 |  | 0.15±0.00 | 0.22±0.00 | 0.43±0.00 | 0.55±0.01 |
| C21:0 | nd | nd | nd | nd |  | nd | nd | nd | nd |
| C22:0 | nd | nd | nd | nd |  | nd | nd | nd | 0.03±0.01 |
| C24:0 | 0.07±0.00 | nd | 0.10±0.01 | 0.09±0.01 |  | 0.01±0.01 | 0.03±0.00 | 0.05±0.00 | 0.09±0.03 |
| **Σ SFA** | **28.68±0.12 A a** | **24.04±0.10 B b** | **28.44±0.14 A a** | **23.98±0.07 B b** |  | **25.79±0.09 B d** | **31.43±0.21 A b** | **27.17±0.09 B c** | **32.28±0.10 A a** |
| **Monounsaturated fatty acids (MUFA)** |  |  |  |  |  |  |  |  |  |
| C14:1 | 0.03±0.00 | 0.03±0.00 | 0.04±0.00 | 0.02±0.00 |  | nd | 0.04±0.00 | 0.04±0.00 | 0.03±0.00 |
| C16:1, *cis*9 (ω7) | 3.33±0.00 | 3.54±0.00 | 3.23±0.01 | 3.19±0.01 |  | 3.50±0.02 | 4.26±0.01 | 2.77±0.01 | 2.91±0.03 |
| C18:1, *trans*9 (ω9) | 0.10±0.01 | nd | nd | nd |  | 0.02±0.00 | nd | 0.02±0.02 | nd |
| C18:1, *cis*9 (ω9) | 8.01±0.00 | 9.03±0.01 | 10.94±0.01 | 7.99±0.01 |  | 7.48±0.01 | 10.65±0.00 | 10.97±0.05 | 17.84±0.04 |
| C18:1 (ω7) | 1.02±0.00 | 1.12±0.02 | 1.19±0.02 | 0.93±0.02 |  | 1.47±0.02 | 1.75±0.00 | 0.47±0.02 | 0.65±0.09 |
| C20:1, *cis*11 (ω9) | 0.02±0.02 | nd | 0.06±0.00 | nd |  | 0.01±0.01 | 0.03±0.03 | 0.02±0.02 | 0.05±0.00 |
| C22:1 (ω9) | nd | nd | nd | nd |  | nd | nd | nd | nd |
| C24:1, *cis*15 (ω9) | nd | nd | nd | nd |  | nd | nd | nd | nd |
| **Σ MUFA** | **12.51±0.03 A c** | **13.72±0.04 B b** | **14.45±0.04 A a** | **12.13±0.04 B d** |  | **12.48±0.06 A d** | **16.72±0.04 A b** | **14.29±0.12 B c** | **21.48±0.16 A a** |
| **Polyunsaturated fatty acids (PUFA)** |  |  |  |  |  |  |  |  |  |
| C18:2, *trans*9, 12 (ω6) | 0.03±0.00 | nd | 0.02±0.02 | nd |  | nd | nd | nd | nd |
| C18:2, *cis*9,12 (ω6) | 1.36±0.02 | 2.41±0.01 | 4.53±0.04 | 3.07±0.00 |  | 1.60±0.02 | 3.15±0.00 | 5.31±0.09 | 5.93±0.01 |
| C18:3, *cis*6,9,12 (ω6) | 0.16±0.00 | 0.22±0.01 | 0.35±0.00 | 0.38±0.00 |  | 0.16±0.00 | 0.29±0.01 | 0.42±0.01 | 0.59±0.01 |
| C18:3 (ω3) | 1.98±0.01 | 1.97±0.07 | 2.85±0.03 | 3.66±0.01 |  | 1.24±0.02 | 3.65±0.10 | 4.13±0.11 | 4.74±0.00 |
| C20:3, *cis*8, 11, 14 (ω6) | nd | 0.11±0.00 | 0.14±0.00 | 0.13±0.00 |  | 0.07±0.00 | 0.12±0.01 | 0.17±0.02 | 0.38±0.00 |
| C20:3, *cis*11, 14, 17 (ω3) | nd | nd | 0.06±0.00 | 0.06±0.00 |  | nd | 0.06±0.00 | 0.08±0.00 | 0.09±0.01 |
| C20:4 (ω6) | 1.47±0.00 | 3.14±0.02 | 5.59±0.00 | 4.57±0.00 |  | 1.73±0.01 | 3.92±0.01 | 7.78±0.04 | 7.68±0.00 |
| C20:5, *cis*5,8,11,14,17 (ω3) | 1.88±0.06 | 3.46±0.01 | 7.43±0.02 | 5.02±0.01 |  | 1.56±0.00 | 4.80±0.01 | 10.80±0.04 | 10.37±0.00 |
| C22:2, *cis*13, 16 | 0.08±0.00 | 0.20±0.01 | 0.26±0.01 | 0.27±0.01 |  | 0.09±0.00 | 0.25±0.01 | 0.33±0.02 | 0.33±0.01 |
| C22:5, *cis*7,10,13,16,19 (ω3) | 0.06±0.00 | nd | 0.03±0.03 | 0.03±0.03 |  | nd | nd | nd | nd |
| C22:6, *cis*4,7,10,13,16,19 (ω3) | nd | nd | nd | nd |  | nd | nd | nd | nd |
| **Σ PUFA** | **7.01±0.08 A d** | **10.52±0.13 B c** | **21.26±0.16 B a** | **17.18±0.06 B b** |  | **6.46±0.06 B d** | **16.23±0.15 A c** | **29.03±0.33 A b** | **30.10±0.05 A a** |
| **Σ ω6** | **3.02±0.02 B d** | **5.88±0.04 B c** | **10.63±0.07 B a** | **8.15±0.01 B b** |  | **3.57±0.04 A d** | **7.48±0.02 A c** | **13.69±0.16 A b** | **14.58±0.02 A a** |
| **Σ ω3** | **3.91±0.06 A d** | **5.44±0.07 B c** | **10.37±0.08 B a** | **8.75±0.04 B b** |  | **2.80±0.02 B c** | **8.51±0.12 A b** | **15.02±0.15 A a** | **15.19±0.02 A a** |
| **ω6/ω3** | **0.77** | **1.08** | **1.03** | **0.93** |  | **1.28** | **0.88** | **0.91** | **0.96** |
| **Overall ω6/ω3** | **0.96** |  |  |  |  |  |  |  |  |

Results are expressed as average ± standard deviation of the mean (SEM). Different letters indicate statistical differences (P < 0.05) in the proximate composition of each macroalgae between different seasons within the same year (lower case letters) or differences within the same season between the years 2016 and 2017 (upper case letters). Abbreviations in the table are as follow: nd (non-detected), ω3 (omega-3), ω6 (omega-6).