**Table S3:** Fatty acid (mg/ kg DW macroalgae) profile of *A. nodosum* 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 | nd | 0.12±0.02 | nd | nd |  | nd | nd | nd | 0.20±0.00 |
| C6:0 | 0.15±0.00 | 0.08±0.00 | 0.07±0.00 | 0.08±0.00 |  | 0.11±0.00 | 0.07±0.00 | 0.04±0.00 | 0.04±0.00 |
| C8:0 | 0.07±0.00 | 0.08±0.00 | 0.07±0.00 | 0.06±0.00 |  | 0.05±0.00 | 0.04±0.01 | 0.03±0.01 | 0.11±0.00 |
| C9:0 | 0.08±0.00 | nd | 0.05±0.00 | nd |  | 0.05±0.00 | nd | nd | nd |
| C10:0 | 0.13±0.00 | 0.11±0.01 | 0.11±0.00 | 0.06±0.00 |  | 0.09±0.01 | 0.05±0.02 | nd | 0.12±0.00 |
| C12:0 | 0.24±0.02 | 0.10±0.01 | 0.25±0.00 | 0.12±0.00 |  | 0.22±0.01 | 0.14±0.01 | 0.13±0.00 | 0.19±0.00 |
| C14:0 | 21.40±0.03 | 17.52±0.03 | 22.09±0.02 | 17.90±0.07 |  | 22.30±0.00 | 18.91±0.00 | 20.59±0.02 | 16.81±0.33 |
| C15:0 | 0.53±0.01 | 0.60±0.00 | 0.71±0.00 | 0.57±0.00 |  | 0.56±0.00 | 0.62±0.02 | 0.60±0.00 | 0.50±0.02 |
| C16:0 | 21.45±0.09 | 21.97±0.01 | 27.23±0.06 | 19.92±0.05 |  | 24.65±0.03 | 22.33±0.15 | 23.47±0.04 | 19.77±0.40 |
| C17:0 | 4.32±0.00 | 4.18±0.00 | 4.20±0.00 | 4.06±0.00 |  | 4.13±0.00 | 4.17±0.00 | 4.16±0.00 | 4.12±0.00 |
| C18:0 | 0.76±0.00 | 1.21±0.00 | 2.04±0.01 | 1.10±0.01 |  | 1.13±0.01 | 1.60±0.00 | 2.11±0.01 | 1.08±0.02 |
| C20:0 | 0.27±0.01 | 0.30±0.03 | 0.53±0.00 | 0.36±0.03 |  | 0.42±0.05 | 0.36±0.02 | 0.52±0.05 | 0.35±0.01 |
| C21:0 | 0.37±0.00 | 0.41±0.01 | 0.36±0.01 | 0.28±0.01 |  | 0.43±0.00 | 0.30±0.00 | nd | nd |
| C22:0 | 0.16±0.01 | 0.18±0.01 | 0.30±0.01 | 0.21±0.00 |  | 0.23±0.00 | 0.20±0.01 | 0.34±0.01 | 0.21±0.01 |
| C24:0 | 0.32±0.04 | 0.36±0.03 | 0.46±0.00 | 0.33±0.03 |  | 0.38±0.03 | 0.40±0.00 | 0.53±0.00 | 0.40±0.03 |
| **Σ SFA** | **50.27±0.18 B b** | **47.20±0.13 B c** | **58.47±0.12 A a** | **45.07±0.18 A d** |  | **54.76±0.13 A a** | **49.19±0.22 A c** | **52.52±0.14 B b** | **43.91±0.81 A d** |
| **Monounsaturated fatty acids (MUFA)** |  |  |  |  |  |  |  |  |  |
| C14:1 | 0.55±0.00 | 0.43±0.00 | 0.61±0.00 | 0.43±0.00 |  | 0.57±0.00 | 0.46±0.01 | 0.51±0.00 | 0.35±0.01 |
| C16:1, *cis*9 (ω7) | 3.45±0.03 | 2.96±0.00 | 3.47±0.01 | 2.68±0.01 |  | 3.40±0.00 | 2.73±0.00 | 2.80±0.01 | 2.44±0.05 |
| C18:1, *trans*9 (ω9) | 0.04±0.04 | nd | nd | 0.07±0.00 |  | nd | 0.08±0.00 | nd | 0.09±0.00 |
| C18:1, *cis*9 (ω9) | 76.93±0.10 | 72.61±0.04 | 118.99±0.29 | 69.47±0.20 |  | 116.62±0.31 | 85.42±0.18 | 95.92±0.49 | 67.10±1.23 |
| C18:1 (ω7) | 2.09±0.01 | 1.89±0.03 | nd | 1.88±0.03 |  | nd | nd | nd | 2.10±0.06 |
| C20:1, *cis*11 (ω9) | 0.22±0.01 | 0.21±0.01 | 0.32±0.02 | 0.21±0.01 |  | 0.30±0.00 | 0.25±0.00 | 0.23±0.01 | 0.22±0.01 |
| C22:1 (ω9) | 0.11±0.00 | 0.09±0.01 | 0.09±0.01 | 0.09±0.02 |  | 0.10±0.02 | 0.12±0.01 | 0.07±0.00 | 0.10±0.00 |
| C24:1, *cis*15 (ω9) | 0.05±0.00 | 0.07±0.00 | 0.07±0.01 | 0.05±0.01 |  | 0.05±0.00 | 0.04±0.00 | 0.04±0.00 | 0.04±0.00 |
| **Σ MUFA** | **83.43±0.20 B b** | **78.26±0.08 B c** | **123.55±0.33 A a** | **74.89±0.28 A d** |  | **121.04±0.33 A a** | **89.10±0.21 A c** | **99.57±0.52 B b** | **72.43±1.36 A d** |
| **Polyunsaturated fatty acids (PUFA)** |  |  |  |  |  |  |  |  |  |
| C18:2, *trans*9, 12 (ω6) | 0.21±0.00 | 0.23±0.01 | 0.23±0.00 | 0.17±0.00 |  | 0.19±0.00 | 0.24±0.00 | 0.19±0.00 | 0.19±0.00 |
| C18:2, *cis*9,12 (ω6) | 17.44±0.03 | 14.11±0.12 | 17.59±0.04 | 14.61±0.05 |  | 22.38±0.03 | 13.13±0.01 | 16.96±0.11 | 14.04±0.27 |
| C18:3, *cis*6,9,12 (ω6) | 0.79±0.01 | 0.70±0.04 | 1.00±0.01 | 0.71±0.01 |  | 0.77±0.00 | 0.62±0.03 | 0.71±0.01 | 0.50±0.01 |
| C18:3 (ω3) | 5.53±0.00 | 4.38±0.01 | 4.06±0.01 | 4.29±0.01 |  | 5.74±0.04 | 3.54±0.01 | 4.53±0.02 | 4.54±0.09 |
| C20:3, *cis*8, 11, 14 (ω6) | 1.16±0.00 | 0.83±0.01 | 1.52±0.01 | 0.97±0.03 |  | 1.46±0.01 | 0.96±0.06 | 1.08±0.02 | 0.75±0.02 |
| C20:3, *cis*11, 14, 17 (ω3) | 0.70±0.04 | 0.55±0.02 | 0.55±0.00 | 0.51±0.00 |  | 0.48±0.00 | 0.56±0.02 | 0.60±0.01 | 0.77±0.11 |
| C20:4 (ω6) | 16.26±0.03 | 14.64±0.02 | 18.87±0.02 | 14.75±0.02 |  | 18.09±0.01 | 15.50±0.02 | 16.57±0.07 | 13.50±0.31 |
| C20:5, *cis*5,8,11,14,17 (ω3) | 7.84±0.11 | 6.44±0.01 | 5.69±0.01 | 6.36±0.00 |  | 6.69±0.01 | 5.77±0.03 | 5.90±0.02 | 6.75±0.23 |
| C22:2, *cis*13, 16 | 0.53±0.01 | 0.31±0.00 | 0.37±0.02 | 0.35±0.01 |  | 0.43±0.02 | 0.32±0.00 | 0.30±0.01 | 0.31±0.01 |
| C22:5, *cis*7,10,13,16,19 (ω3) | 0.17±0.00 | 0.17±0.00 | 0.15±0.01 | 0.16±0.00 |  | 0.12±0.00 | 0.16±0.00 | nd | 0.17±0.01 |
| C22:6, *cis*4,7,10,13,16,19 (ω3) | nd | nd | nd | nd |  | nd | nd | nd | 0.10±0.00 |
| **Σ PUFA** | **50.63±0.23 B a** | **42.36±0.23 A d** | **50.03±0.13 A b** | **42.87±0.15 A c** |  | **56.34±0.14 A a** | **40.79±0.19 B c** | **46.83±0.27 B b** | **41.63±1.06 A c** |
| **Σ ω6** | **35.86±0.07 B b** | **30.52±0.19 A d** | **39.20±0.08 A a** | **31.20±0.11 A c** |  | **42.89±0.06 A a** | **30.44±0.12 A c** | **35.51±0.22 B b** | **28.98±0.62 B d** |
| **Σ ω3** | **14.25±0.15 A a** | **11.53±0.04 A b** | **10.45±0.03 B d** | **11.31±0.02 A c** |  | **13.03±0.06 B a** | **10.03±0.06 B c** | **11.03±0.05 A b** | **12.34±0.44 A a** |
| **ω6/ω3** | **2.52** | **2.65** | **3.75** | **2.76** |  | **3.29** | **3.03** | **3.22** | **2.35** |
| **Overall ω6/ω3** | **2.92** |  |  |  |  |  |  |  |  |

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).