**Table 1** Biomass of *C. müelleri* cultivation and yield extracted and biochemical composition of crude diatom beta glucan extracted from *C. müelleri*

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| --- | --- | --- | --- |
| **Yield and biochemical composition** | **T1** | **T2** | **T3** |
| Biomass (x10⁶ cells mL-1) | 3.85 ± 0.13a | 4.03 ±0.08a  | 5.75±0.06b |
| The yield of crude beta-glucan extracted (g L-1) | 0.38±0.01a | 0.35±0.01b | 0.41±0.01c |
| Carbohydrate (%) | 5.81 ±0.50a | 6.90 ±1.14a | 13.71± 1.56b |
| Total proteins (mg/g extract) | 94.84±0.08b | 31.39 ±0.72a | 30.91 ±0.38a |
| Lipid (%) | 1.1+0.08a  | 2.21+0.62b  | 4.34+0.03c |

The mean and standard deviation (SD) of three replicates is used to express data. When employing one-way ANOVA (P< 0.05), different letters represent the statistically significant.

**raw data**

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| **Biomass (x 10⁶ cells mL-¹)** | **T1** | **T2** | **T3** |
| R1 | 3.90 | 4.03 | 5.81 |
| R2 | 3.70 | 4.10 | 5.70 |
| R3 | 3.95 | 3.95 | 5.75 |
| **Average** | 3.85 | 4.03 | 5.75 |
| **SD** | 0.13 | 0.08 | 0.06 |

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| **The yield of crude beta-glucan extracted (g L-1)** | **T1** | **T2** | **T3** |
| R1 | 0.38 | 0.35 | 0.41 |
| R2 | 0.39 | 0.34 | 0.42 |
| R3 | 0.38 | 0.36 | 0.40 |
| **Average** | 0.38 | 0.35 | 0.41 |
| **SD** | 0.01 | 0.01 | 0.01 |

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| --- | --- | --- | --- |
| **Carbohydrate (%)** | **T1** | **T2** | **T3** |
| R1 | 5.24 | 5.76 | 12.00 |
| R2 | 6.19 | 8.05 | 14.10 |
| R3 | 6.00 | 6.90 | 15.05 |
| **Average** | **5.81** | **6.90** | **13.71** |
| **SD** | 0.50 | 1.14 | 1.56 |
| **Total proteins (mg/g extract)** | **T1** | **T2** | **T3** |
| R1 | 94.75 | 31.05 | 31.34 |
| R2 | 94.89 | 30.91 | 30.76 |
| R3 | 94.89 | 32.21 | 30.62 |
| **Average** | **94.84** | **31.39** | **30.91** |
| **SD** | **0.08** | **0.72** | **0.38** |

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| **Lipid (%)** | **T1** | **T2** | **T3** |
| R1 | 0.99 | 2.24 | 4.32 |
| R2 | 1.09 | 2.09 | 4.37 |
| R3 | 1.25 | 2,30 | 4.34 |
| **Average** | **1.11** | **2.21** | **4.34** |
| **SD** | **0.08** | **0.62** | **0.03** |

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