**A chemically safe way to produce insect biomass for possible application in feed and food production**

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Supplementary Material

Table S1Concentration (mg kg-1) of cadmium (Cd), Lead (Pb), mercury (Hg), Arsenic (As) and nickel (Ni) converted to moisture content of 12%, in the growth substrates and in HI prepupae. Legal limits for feed material and complete feed (relative to a moisture of 12%), according to Directive 2002/32/EU (and amendments) on undesirable substances in animal feed.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Samples** | **Cd** | **Pb** | **Hg** | **As** | **Ni** |
| Legal limit |  |  |  |  |  |
| Complete feed | 0.5 | 5.0 | 0.2 | 2.0 | - |
| Feed materials | 1 (vegetable)  2 (animal) | 10 | 0.1 | 2.0 | - |
| *Schizochytrium* | 0.0022±0.0001 | 0.057±0.003 | 0.008±0.002 | 0.162±0.002 | 3.2±0.1 |
| *Isochrysis* | 0.001±0.001 | 0.073±0.009 | 0.0014±0.004 | 0.135±0.001 | 1.04±0.03 |
| E | 0.046±0.007 | 0.028±0.002 | 0.024±0.002 | 0.129±0.005 | 3.1±0.3 |
| As | 0.044±0.003 | 0.028±0.002 | 0.023±0.002 | 0.132±0.008 | 3.1±0.2 |
| Bs | 0.043±0.003 | 0.030±0.001 | 0.021±0.002 | 0.127±0.004 | 3.4±0.4 |
| Cs | 0.035±0.003 | 0.033±0.003 | 0.018±0.001 | 0.135±0.01 | 3.4±0.3 |
| Ds | 0.036±0.003 | 0.034±0.002 | 0.018±0.002 | 0.133±0.005 | 3.2±0.4 |
| HI E | 0.19±0.03 | 0.066±0.006 | 0.092±0.004 | 0.114±0.004 | 1.94±0.06 |
| HI As | 0.24±0.03 | 0.062±0.006 | 0.050±0.004 | 0.108±0.002 | 1.65±0.04 |
| HI Bs | 0.20±0.02 | 0.059±0.007 | 0.040±0.003 | 0.109±0.003 | 1.03±0.04 |
| HI Cs | 0.20±0.02 | 0.056±0.006 | 0.022±0.003 | 0.113±0.003 | 1.02±0.08 |
| HI Ds | 0.19±0.02 | 0.058±0.005 | 0.019±0.003 | 0.119±0.002 | 1.18±0.06 |
| Ai | 0.039±0.004 | 0.030±0.002 | 0.022±0.002 | 0.122±0.008 | 2.6±0.3 |
| Bi | 0.038±0.004 | 0.033±0.003 | 0.020±0.002 | 0.125±0.004 | 2.9±0.3 |
| Ci | 0.035±0.003 | 0.038±0.003 | 0.020±0.001 | 0.124±0.005 | 2.7±0.2 |
| Di | 0.033±0.004 | 0.040±0.001 | 0.019±0.002 | 0.123±0.006 | 2.5±0.3 |
| HI Ai | 0.24±0.03 | 0.061±0.006 | 0.099±0.003 | 0.116±0.008 | 1.52±0.09 |
| HI Bi | 0.21±0.02 | 0.055±0.005 | 0.078±0.004 | 0.114±0.008 | 0.77±0.08 |
| HI Ci | 0.21±0.01 | 0.063±0.005 | 0.063±0.003 | 0.115±0.006 | 0.60±0.04 |
| HI Di | 0.22±0.02 | 0.066±0.007 | 0.040±0.004 | 0.122±0.002 | 0.52±0.04 |

Substrates E: 100% coffee silverskin (CS); substrates As, Bs, Cs and Ds: CS enriched with 5%, 10%, 20% and 25% of *Schyzochytrium* sp., respectively; substrates Ai, Bi, Ci and Di: CS enriched with 5%, 10%, 20% and 25% *Isochrysis* sp., respectively. HI E: prepupae reared on substrate E; HI As, HI Bs, HI Cs, HI Ds: prepupae reared on As, Bs, Cs and Ds, respectively; HI Ai, HI Bi, HI Ci, HI Di: prepupae reared on substrate Ai, Bi, Ci and Di, respectively. Data represent mean ± standard deviation (n=9)