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Innovative polyhydroxybutyrate production by *Chlorella fusca* grown with pentoses

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16 **Abstract**

17 The current study aimed to evaluate if the addition of pentoses along with variations in

18 light intensity and photoperiod can stimulate the production of polyhydroxybutyrate

19 (PHB) and other biomolecules by *Chlorella fusca* LEB 111. The variables evaluated

20 were the addition of xylose and arabinose as sources of organic carbon, different

21 photoperiods (18 h, 12 h and 6 h light) and variations in light intensities (58, 28 and 9

22  $\mu\text{mol}_{\text{photons}} \text{m}^{-2} \text{s}^{-1}$ ). The highest PHB accumulation (17.4% w w<sup>-1</sup>) and protein

23 production (53.2% w w<sup>-1</sup>) were observed in assays with xylose addition and a

24 photoperiod of 6 h of light provided at 28 and 58  $\mu\text{mol}_{\text{photons}} \text{m}^{-2} \text{s}^{-1}$ , respectively. The

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