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Antioxidative activity of some phototrophic microalgae grown in waste water

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Microalgae can be a new source of oil and protein in the aquaculture industry while their potential as natural sources of antioxidants has gained recent attention. Not only the fatty acid and amino acid composition but also the antioxidative properties of the microalgae biomass is important when selecting the species to be used for fish feed. The present study is part of a project which aims at developing new processing technologies, so that microalgae-biomass can be used as an alternative valuable resource in fish feed. Lipid and protein composition as well as antioxidative properties were used for the screening and selection of the species. In this study, the potential antioxidant activities of 12 micro algal samples from *Chlorella.*, *Spirulina.*, *Euglena*, *Scenedesmus* and *Haematococcus* species grown in waste water in Kalundborg micro algal facilities were evaluated using three antioxidant assays, including the trolox equivalent antioxidant capacity, superoxide anion radical scavenging activity and 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging capacity. Total phenolic contents (FolinCio-Calteau), tocopherols (HPLC), carotenoids (HPLC), flavonoids and ubiquinone (HPLC) contents also were measured. Antioxidant activity in microalgae varied strongly between species.