

— The influence of barley straw extract addition on the growth of duckweed (—



Due to its ability to forming dense mats in small waterbodies, duckweeds are often considered as nuisance plants in some freshwaters. Up to now, few techniques had been tested aiming towards managing duckweeds, but all of them had appeared to have some disadvantages. As an attempt to find a new effective management tool, a laboratory experiment assessing the influence of barley straw (BS) extract addition – a substance used in algal bloom control, upon the growth of the duckweed *Lemna valdiviana*, was performed. Reaction on two various concentrations of BS extract were quantified by measurements of changes in duckweed biomass and root length. The results showed that plants which have received the extract increased their biomass slower than that of the control, however only those with the addition of smaller amounts of BS differed significantly from the controls. Furthermore, BS addition stimulated the root growth in both experimental tanks. This implies that the mean roots length was higher, although the statistical differences were insignificant. As possible explanation for the observed changes we suggest that: (1) the growth inhibition of *Lemna valdiviana* under exposition to BS extract might be induced by an uptake of organic compounds from which some

(phenolic substances) are (probably) toxic; (2) competitive interactions with the microbial communities developed upon the duckweed roots might play a role as well.

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