

Comparative study of the treatment of eutrophic water of different submerged plants with different planting densities

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Abstract A comparison of the purification ability of eutrophic water by two submerged macrophytes with different planting densities, is outlined in this manuscript. Removal of total nitrogen (TN) and total phosphorus (TP) from eutrophic water by *Hydrilla verticillata* and *Potamogeton crispus* planted at different densities were shown to differ. Both *H. verticillata* and *P. crispus* had high removal rates of TN, TP and chlorophyll *a* from eutrophic water, and their removal ability increased with increasing plant density. At the same density, *P. crispus* had higher removal ability for TN than *H. verticillata*; conversely, *H. verticillata* had higher removal ability for TP than *P. crispus*. The results suggested that density should be taken into account in restoration programmes of submerged macrophyte and the optimal submerged macrophyte should be chosen by the highest removal rate for different eutrophic composition (TN, TP).

Key words submerged macrophytes; eutrophic water; treatment; planting density