

The Influence of Tissue Handling on the Flavonoid Content of the Aquatic Plant *Posidonia oceanica*

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Abstract In recent times, more and more studies have focused on flavonoids as biomarkers of environmental quality in aquatic plants, in particular, *Posidonia oceanica* (Linnaeus) Delile. It is therefore of interest to determine how different prehandling methods can affect flavonoid concentrations. The methods tested were (1) immediate extraction of fresh samples, (2) extraction after 48 hr chilling, (3) freeze-drying, and (4) oven drying. Chilling and freeze-drying considerably altered the quantity of flavonoids measured, but not their profile. The effect of oven drying was not significant. Chilling led to a loss of 57% of total (pro)anthocyanidins, 39% of total flavonols, and 48% of all simple flavonols (myricetin, quercetin, isorhamnetin, and kaempferol). Freeze-drying caused a loss of 71% of total (pro)anthocyanidins, 87% of total flavonols, and 95% of all simple flavonols.

Keywords Prehandling methods · Chilling · Freeze-drying · Oven-drying · *Posidonia oceanica* · Flavonoids · (pro)Anthocyanidins · Flavonols

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