



Bioconcentration and effect of cadmium on chlorophyll a fluorescence in young plants of *Virola surinamensis*.

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The constant increase in cadmium (Cd) levels has contributed to environmental contamination. The objective of this study was to evaluate the bioconcentration and effects of cadmium doses on chlorophyll a fluorescence in young plants of *Virola surinamensis*. The experimental design was completely randomized with five concentrations of Cd (0, 15, 30, 45 and 60 mg L⁻¹). The plants were maintained under these conditions for 60 days. The maximum photochemical quantum efficiency of photosystem II (Fv/Fm), electron transport rate (ETR) and photochemical extinction coefficient (qP) decreased with increasing Cd rates. The non-photochemical extinction coefficient (NPQ) increased in plants exposed to Cd. The Fv/Fm index decreased from 0.93 (control) to 0.87 (concentration of 60 mg L⁻¹ of Cd), ETR and qP decreased from 80.8 and 0.19 (control) to 15.9 and 0,07 (concentration of 60 mg L⁻¹ of Cd), respectively. NPQ increased from 1.3 (control) to 2.17 (concentration of 60 mg L⁻¹ of Cd). The bioconcentration factor (BCF) was bigger in concentrations of 30 mg L⁻¹ of Cd (42.93) and 45 mg L⁻¹ of Cd (29.95) and the maximum value of the translocation factor (FT) (0.065) occurred at the concentration of 15 mg L⁻¹ of Cd. The results of FBC and FT demonstrated low plant efficacy in Cd phytoextraction and suggest that *V. surinamensis* may be promising for the purpose of phytostabilization of Cd.

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