Title Flavonoid, tannin and hypericin concentrations in the leaves of St. John's wort (*Hypericum perforatum* L.) are affected by UV-B radiation levels

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Abstract

St. John's wort (*Hypericum perforatum* L.) herb is used as a herb-tea or as a food supplement because of its antidepressive properties. St. John's wort, grown under different levels of UV-B radiation, was analysed for its concentrations of flavonoids, tannins and hypericin. A high level of UV-B radiation increased leaf concentrations of flavonoids from 6.31 to 9.00/100 g in dry matter (DM) and of tannins from 26.6 to 31.4/100 g in DM. The concentration of hypericin in leaves exposed to enhanced UV-B radiation (0.08/100 g in DM) was lower than that of leaves exposed to reduced UV-B radiation (0.09/100 g in DM). We conclude that the concentrations of bioactive substances in St. John's wort herb can be altered by regulating the environment during plant growth.