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EFFECTS OF NITROGEN LEVEL ON PURSLANE ANTIOXIDANT ACTIVITY

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The high antioxidant activity of purslane, *Portulaca oleracea* L., gives it a high nutritional and functional value. The commercial production of purslane has increased in Portugal, making it necessary to know the effects of inputs, mainly nitrogen, on the antioxidant activity. The main goal of this study was to evaluate the influence of nitrogen application on purslane antioxidant activity. The experiment was carried out with for treatments: 30, 60 and 90 kg/ha of nitrogen. Plants of golden-leaf purslane were grown in Styrofoam-boxes filled with substrate and fertigated two times per week, over four weeks with ammonium nitrate solution (16.9% NO₃-N and 16.7 NH₄⁺-N). The increase in the nitrogen level decreased the water-soluble proteins content. However the ascorbate, phenols content as well as antioxidant activity measured by FRAP method was not affected by nitrogen level. Plants shoot antioxidant activity, measured by DPPH method decreased significantly in the treatment with 90 kg N/ha (26.20 mg/g gallic acid). On the other hand, plant shoot antioxidant activity mediated by peroxidases was higher in treatment 30 kg N/ha (0.459 μmol min⁻¹/mg prot.). Application of 60 kg N/ha allowed a vigorous plant growth without disturb its antioxidants and conservation properties.