Abstract

A glasshouse study was carried out to determine the isotopicdiscrimination (B values) and the isotopic fractionation factors (β)associated with symbiotic nitrogen fixation in stylo (*Stylosantheshamata* L.) and cowpea (*Vigna unguiculata* L.Walp). The B values are required to improve the accuracy of estimates ofnitrogen fixation based on the differences in the natural abundance of ^{15}N between nitrogen fixing and non-fixing plants. The B values ofplants grown in nitrogen free media for stylo were −1.60, 82 days after planting (DAP) and −1.86, 98 DAP and −1.48, 49DAP and −1.51 for cowpea shoots 73 DAP. Theisotopic fractionation factors for stylo and cowpea were 1.0016, 82DAP and 1.0019, 98 DAP and 1.0018, 49 DAPand 1.0015, 73 DAP, respectively.