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Comparison of antioxidant activity of seeds of *Dolichos biflorus* with some edible seeds

D S Jayaweera and U L B Jayasinghe*
Institute of Fundamental Studies, Hantana Road, Kandy.

Plant seeds play a major role in human diet all over the world. Considerable scientific evidence suggests that whole grains, as commonly consumed by humans reduce risk for chronic diseases including cancer and heart disease. Recently we commenced a chemical investigation on the seeds of *Dolichos biflorus* L. (Sinhala. Kollu). *D. biflorus* is widely used in traditional systems of medicine for rheumatism, liver diseases etc. As a part of this study we compared the antioxidant activity of the seed extracts of *D. biflorus* with some popular edible seeds: *Cicer arietinum* L.(kadala), *Lathyrus aphaca* L.(yellow pea), *Pisum sativum* L.(green pea), *Vigna unguiculata* L.(red cowpea), *Lens culinaris* L. (mysore lentil), *Zea mays* L. (badairingu), *Vigna cylindrica* L. (wanduru mae), *Phaseolus mungo* L. (undu) and *Phaseolus aureus* Roxb. (green gram) against 2,2'-diphenyl-1-picrylhydrazyl (DPPH) radical by spectrophotometric method.

Each variety of seed (25g) was extracted with methanol using sonicator at room temperature (30min. x 3). Each extract was evaporated to dryness and subjected to testing for antioxidant activity. The antioxidant activity of *D. biflorus* was observed as IC_{50}= 330 µg/ml. The highest antioxidant activity was observed for the methanol extract of seeds of *V. cylindrica* (IC_{50} = 23 µg/ml). The antioxidant activity of methanol extract of *P. mungo* (IC_{50} = 218 µg/ml) is higher than that of *D. biflorus*. Further the seed extracts of *L. aphaca* (IC_{50}= 940 µg/ml), *P. aureus* (IC_{50}= 340 µg/ml), *V. unguiculata* (IC_{50}= 475µg/ml), *Z. mays* (IC_{50}=510 µg/ml) showed lower antioxidant activities than that of *D. biflorus*. The IC_{50} of *C. arietinum* (IC_{50}>1000 µg/ml), *P. sativum*(IC_{50}> 1000 µg/ml) and *L. culinaris*(IC_{50}>1000 µg/ml) showed lowest antioxidant activity out of the tested seed extracts.

*ulbj2003@yahoo.com Tel: 081-2232002