Nutritive Quality of Thampala (*Amaranthus spp*.) as a Forage Crop in Sri Lanka

I.K. Leukebandara*, S. Premaratne[1] and B.L. Peiris [2]

Postgraduate Institute of Agriculture
University of Peradeniya
Sri Lanka

ABSTRACT: *Forage quality characteristics of amaranth (Amaranthus spp.) have not been studied so far in Sri Lanka. Therefore, this study was carried out to compare the forage nutritional value of five different amaranth cultivars namely, Amaranthus hybridus, Amaranthus caudatus, Amaranthus hypochondriacus, Amaranthus cruentus, Amaranthus dubious together with Guinea 'A' grass (Panicum maximum), cowpea (Vigna unguiculata) and maize (Zea mays), at three different harvesting times, namely early bloom, mid bloom and late bloom stages of the crop. A randomized complete block design (RCBD) with three replicates was used to compare eight treatments (five amaranth species, guinea grass, cowpea and maize). Seeds of eight plant species were randomly established in eight plots of each block separately and proximate composition was analyzed. In all three harvests, dry matter (DM) content in amaranth was ranged from 7.43- 17.77% in contrast to the 14.67-17.77%, 13.43 - 19.10% and 13.17-18.27% in cowpea, Guinea grass and maize respectively. At all three harvests, higher amounts of crude protein (CP) were found in amaranth compared to other three forages studied. Amaranth contains approximately one and half to two times more CP than Guinea grass at 50 days after planting while it was one and half times more CP than Guinea grass in 80 days after planting. In addition to the above, CP content in all plant species have been decreased with the maturity of plants. Crude fiber (CF) content observed in cowpea, Guinea grass and maize was 21.77-33.67%, 28.0-36.57% and 22.4-25.7% respectively, while it was 9.43-24.5% in amaranth. Ether extract (EE) content observed in amaranth was ranged from 2.37- 3.6% in contrast to cowpea (4.03-5.67%), Guinea grass (1.6-2.4%) and maize (2.43-2.47%). Ash content in Amaranthus spp. was ranged from 11.43- 21.53%. Revealed results conclude that amaranth could be developed as a high quality forage crop in Sri Lanka.*

Keywords*: Forage quality, proximate Composition, Thampala (Amaranth)*

[1] Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka
[2] Department of Crop Science, Faculty of Agriculture, University of Peradeniya,Sri Lanka
* Corresponding author: ikleukebandara@live.com