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CHEMICAL PROPERTIES AND POTENTIAL UTILIZATION OF BANANA PSEUDOSTEM

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ABSTRACT

Composition and mineral contents of the pseudostem of three cultivars of the banana plant, *Musa* species, were determined and possible utilization of the largely discarded plant part highlighted. The cultivars comprised the popular starchy banana, "Plantain", and two dessert cultivars, "Gros Michel" and (dwarf) "Cavendish". Moisture content in the pseudostem was over 90% and thus the material could not be used as firewood. Concentrations of P, Na and Mg were remarkably low, ranging narrowly between 0.1 and 0.3% in the 3 banana cultivars. Ca was fairly concentrated, especially in the outer portion of the material, ranging from 0.4% in the Gros Michel, to 0.8% in the Cavendish, but hardly found within the inner portion. K was mostly concentrated in the portion of the pseudostem, ranging from 5.6% (in the Cavendish) to 6.2% (in the Plantain). With the mineral element profile obtained and ash content ranging from 14% to 30%, the banana pseudostem could be useful as organic mulch. The remarkably high K content would indicate potential usefulness in the soap industry. Fat was mostly stored in the outer portion of the pseudostem, ranging from 18%, in the Plantain, to 22% in the Gros Michel, and least in the inner portion. The rather high ether-extractable content of the plant part could serve as a source of metabolizable energy for ruminant livestock. In addition, both the major and the trace elements in the plant material could meet at least the maintenance needs of all classes of the cattle and the sheep. With crude fibre ranging from about 20%, in the inner portion, to almost 40% in the outer portion, nutritive supplementation of banana pseudostem with some highly fermentable N-source would be imperative to enhance intake and improve digestibility of the plant material.

Keywords: Banana pseudostem, proximate analyses, elemental composition, utilization