ISSN:1410-7368

62,5 % defisien mineral Cu dan 50 % defisien mineral Se, namun konsentrasi Fe pada semua jenis legume lebih tinggi dari level kritis. Distribusi mineral mikro pada NDF dan ADF sangat nyata ($p<0.01$) dipengaruhi oleh spesies dan musim dan tergantung pada jenis mineral yang diamati. Secara umum mineral mikro yang terikat dengan fraksi serat lebih tinggi pada musim kemarau dibandingkan dengan musim hujan. Mineral Fe dan Se merupakan mineral yang paling tinggi terikat pada NDF dan ADF, sedangkan ikatan yang paling rendah terdapat pada Cu.

Kata kunci: Mineral mikro, hijauan, musim, serat.

Introduction

Most of grazing livestock in tropical countries including Indonesia fulfill their mineral requirements usually only from the forages consumed. Since the forages are frequently deficient or excess in various minerals, the animals may have sub clinical deficiencies or chronic toxicities. Aside from the above mentioned problem, the use of minerals by animals is constrained by their bioavailability. Some minerals in the forages are associated with other compounds or trapped in the undigested nutrient fractions resulting in slowly release or making these unavailable for use. Therefore, in assessing mineral requirement of the animals, mineral content in forages and as well as its bioavailability need to be considered. The mineral content can be determined chemically while bioavailability is much more difficult to be estimated. The bioavailability of the minerals can be affected by their location in forage structure. Emanuele and Staples (1990) reported that minerals associated with the plant cell wall have lower bioavailability or require a longer fermentation time for maximal release. There was no information available concerning mineral distribution and their bioavailability of forages in South Sumatera in relation to different seasons. The objective of this study was to evaluate the micro mineral concentration of the forages and their distribution in NDF (neutral detergent fiber) and ADF (acid detergent fiber) during rainy and dry seasons.

Research Methodology

Study area and collection of forages samples

The study was conducted in Palembang, South Sumatera province – Indonesia. Seven species of commonly forages namely *Axonopus compressus*, *Panicum maximum*, *Pennisetum purpuphoides*, *Leucaena leucocephala*, *Centrocema pubescens*, *Calopogonium mucunoides* and *Acacia mangium* were collected at native pasture using a quadrant of 50 x 50 cm of size during rainy and dry seasons. The forages samples were put in plastic bags and then oven dried at 60^0C for 48 hrs, coarsely milled to pass a 1 mm screen and packed in the special laboratory polyethylene bags for further analyses.

Determination of micro mineral distribution

Micro minerals (Zn, Fe, Mn and Cu) concentrations in the forages samples and fiber fractions were analyzed using inductively coupled plasma emission

Akreditasi DIKTI Nomor: 23a/DIKTI/Kep/2004