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Micro Mineral Content in Fibers of Forages in South Sumatera

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Abstract

This study was carried out to evaluate concentration of micro minerals (Zn, Fe, Mn, Cu and Se) of forages and their distribution in fiber fraction (Neutral Detergent Fiber (NDF) and Acid Detergent Fiber (ADF) in South Sumatera during dry and rainy season. 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 during rainy and dry seasons. The results showed that micro minerals concentration of forages and their distribution in fiber fraction varied among species and season. In general, concentration of micro minerals was slightly higher in rainy season compared to dry season either in grass or legumes forages. In grass concentration of Fe and Mn were above the critical level, while 33.3%, 1005 AND 16.7% of evaluated grass were deficient in Zn, Cu and Se. Data on legume forages show that 75% of legumes were deficient in Zn and Mn, 62.5% deficient in Cu and 50% deficient in Se. There was no species of legume deficient in Fe. Distribution of micro minerals in NDF and ADF were also significantly affected by species and season and depends on the kinds of element measured. Generally, micro minerals were associated in fiber fractions much higher during dry season compared to rainy season. Iron (Fe) and Selenium (Se) in forages were the highest elements associated in NDF and ADF, while the lowest was found in Copper (Cu).

Key words: Seasons, forages, micro mineral, fiber.

Abstrak

Penelitian ini dilakukan untuk mengevaluasi kandungan mineral mikro (Zn, Fe, Mn, Cu and Se) pada hijauan dan distribusinya pada fraksi serat (NDF dan ADF) di Sumatra Selatan selama musim hujan dan musim kemarau. Tujuh spesies rumput yang diamati adalah *Axonopus compressus*, *Panicum maximum*, *Pennisetum purpuphoides*, *Leucaena leucocephala*, *Centrocema pubescens*, *Calopogonium mucunoides* and *Acacia mangium*. Hasil penelitian menunjukkan bahwa konsentrasi mineral mikro pada hijauan dan distribusinya pada fraksi serat sangat bervariasi antar spesies rumput yang diamati. Secara umum, konsentrasi mineral mikro cenderung lebih tinggi pada musim hujan dibandingkan dengan musim kemarau baik pada rumput maupun legume. Pada rumput, konsentrasi mineral Fe dan Mn lebih tinggi dari level kritis (konsentrasi yang menyebabkan defisiensi), sedangkan 33,3 % rumput defisien akan mineral Zn, 100 % defisien mineral Cu dan 16,7 % defisien akan mineral Se. Pada legume menunjukkan bahwa 75 % legume yang diteliti di Sumatera Selatan defisien akan mineral Zn,