

学位論文の要旨

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専 攻 入学年度	宮崎大学大学院農学工学総合研究科博士後期課程 資源環境科学専攻 平成 19年度 (4月) 入学
学位論文 題 目	Sustainable Forage Production of Dwarf Napiergrass Pasture Supplied by Digested Effluent of Manure 消化液を施用した矮性ネピアグラス草地の持続的な粗飼料生産
<p>【論文の要旨】 (和文の場合1,200字程度、英文の場合800語程度)</p> <p>Fertilizer is necessary for grasses to survive and to produce high yield. Among some chemical and organic fertilizers, digested effluent of manure (DEM) and solid form of manure (SFM) produce by a biogas plant from beef or swine feedlot waste is easy to obtain, cheap in price and is also a good fertilizer for most herbaceous crops. Manure application in excess of crop requirements should cause a significant accumulation of N, P, K and other elements in soil, and the ratio of N mineralization to total N content in the applied manure was independent of manure application rate. Thus, irrigation or heavy rainfall occurred soon after the application should increase the risk in the nutrient runoff, especially at the application of slurry. Dwarf napiergrass has a rapid growth and requires heavy fertilization and careful management to maintain high quality of forage. Thus, the high level of forage yield can be expected by growing dwarf napiergrass under the high level of DEM or SFM application. From the above considerations, this study aimed to determine the effect of the level of DEM and SFM application on the growth potential of dwarf napiergrass at several growth stages, herbage quality and soil environment at the Environment and Resources Science, Environmentally Harmonized Technology and Resource Science, Interdisciplinary Graduate School of Agriculture and Technology University of Miyazaki from 2007 to 2010.</p> <p>In all application levels both years, plant height (PH), plant length (PL) and tiller number (TN) increased with time in all application levels.</p> <p>The TDMW increased with time and increased with the increase in DEM or SFM level. Thus, the difference in TDMW among application levels tended to be expanded with time. The LB/ST decreased at all levels and the differences in LB/ST were quite small among application levels. The T/R increased with the increase of DEM or SFM application levels and the difference in T/R among application levels was not significant in all application level in each sampling date.</p> <p>The increase in tiller number and live leaf number with the increase in manure application level caused the increase in leaf area index (LAI), and the increase in LAI was linearly correlated with that in crop growth rate (CGR) which inferred to increase total dry matter weight in dwarf napiergrass. At the later growing season, increase in CGR was mediated with that in NAR, supposed to be higher release of nutrients as affected by higher level of DEM or SFM application.</p>	

- (注1) 論文博士の場合は、「専攻、入学年度」の欄には審査を受ける専攻を記入すること。
(注2) フォントは和文の場合、10.5ポイントの明朝系、英文の場合12ポイントのtimes系とする。
(注3) 学位論文題目が外国語の場合は日本語を併記すること。
(注4) 和文又は英文とする。