

学 位 論 文 要 旨	
氏 名	YIN YIN KYAWT
題 目	Studies on cassava production and preparing methods for utilization as feed (キャッサバの生産と飼料利用のための調製技術に関する研究)
<p>The important limiting factor on the utilization of cassava as livestock feed is the content of anti-nutritional factors such as hydrocyanic acid potential (HCNp). The reduction of HCNp content of cassava foliage and tubers during processing processes and cultivation management were clarified and then evaluate the feeding values as feed for poultry.</p> <ol style="list-style-type: none">1. The effect of soaking and wilting processing methods on HCNp content of cassava was evaluated. The mean decreasing ratio in HCNp were 64% and 51% for soaking and wilting processing, respectively.2. The effect of ensiling process on reduction of the HCNp content of cassava leaves and tuber with fermented juice of epiphytic lactic acid bacteria (FJLB) as silage additive was evaluated. After ensiling for 14 days, the reduction in HCNp of FJLB treated silages were ranged from 72 to 84%.3. The effect of different fertilization rates with nitrogen (N) and potassium (K) combination on the chemical composition including HCNp and yielding of cassava was determined. The maximum dry matter yield and highest HCNp reduction in foliage and tuber were obtained by the application of N:K₂O 50:100 or 50:250 kg/ha.4. The effect of different periods for foliage cassava harvests on the chemical composition including HCNp and yielding of tuber was investigated. Two different initial foliage harvesting were conducted at 3 and 5 months and the final harvesting was done at 7 month after planting. It is suggested to harvest at the initial harvesting at 5 months and final harvest system because enough protein source including young leaves was obtained with acceptable level of tuber yield.5. The effect of substituting maize in layer diets with cassava tuber and different levels of foliage on laying performance and egg quality was evaluated. The most appropriate replacement percentage of 40% cassava meal (30% tuber + 10% foliage) showed the best performance in terms of egg production and Haugh unit score, while keeping high carotenoid contents and low level of cholesterol.6. The effect of complete replacement of maize with cassava on the performance and egg quality of laying hens was investigated. Commercial diet, contained no cassava meal and served as control. The proportion of maize was replaced with the cassava meal at the levels of 50% (40% tuber + 10% foliage), 75% (65% tuber + 10% foliage), and 100% (90% tuber + 10% foliage). The egg production performance was able to tolerate up to 75% of cassava meal, but showed a tendency to decrease in 100%. <p>The cassava meal products used as poultry feed was fertilized with N-K at the time of planting and combined with the ensiling method which further reduced HCNp content to safe level. This study cleared the use as promising livestock feed resource by reducing the HCNp content of the cassava by appropriate processing, and demonstrated a substitute effect of the corn in laying eggs chickens.</p>	