Synchronization Protein-Energy Index of Various Forages for Dairy Livestock: an In Vitro Study

Title	Synchronization Protein-Energy Index of Various Forages for Dairy Livestock: an In Vitro Study
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Abstract	The present study inventoried the protein-energy synchronization (PES) index of various types of grass. The study was conducted using in vitro techniques with material 5 types of grass (elephant, king, dwarf elephant, guinea, and setaria) and rumen fluid of the Friesian Holstein (FH). The PES index is calculated based on the average degradation of g protein and Kg organic matter (OM) per hour at the time of observation of 2nd, 4th, 6th, 8th, 12th, 24th, 48th, and 72nd hours. The hourly degradation rates were analyzed by linear regression to obtain the average hourly degradation rate. The results were included in the PES index calculation formula and discussed descriptively. This study found that all five grass had almost uniform nutritional value. Regression analysis results show a different equation, but with a high coefficient of determination (> 90%) on all types of grass. The PES index obtained in elephant, king, dwarf elephant, guinea, and setaria grass are 0.72, 0.66, 0.69, 0.58, and 0.68. The study concluded that elephant grass has a PES index at a high level, while king, dwarf elephant, guinea, and setaria grass at medium level for compiling dairy rations.
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