ABSTRACT

Nutritional Evaluation of Panicum maximum, Brachiaria decumbens and Pueraria thunbergiana Dried with Different Methods

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The aim of research was to evaluate different drying methods on the nutritional quality forage. Experimental design used was Complete Randomized Design with 2 factors (6 x 3) and three replications. Factor A is drying method: sun drying method (7 hours), sun drying method (14 hours), sun drying method (21 hours), oven 60°C (7 hours), 60°C oven (14 hours) and oven 60°C (21 hours), while Factor B is 3 types of forage: Panicum maximum, Brachiaria decumbens and Pueraria thunbergiana, obtained from Laboratory of Agrostologi, Faculty of Animal Science, Bogor Agricultural University. Data were analyzed used ANOVA, followed by Duncans test. Variables measured in this research were the loss weight of forage, loss of dry matter (DM), dry matter (DM), inorganic material (ash), organic matter (OM) and crude protein (CP). Nutrient content of each forage were analyzed using AOAC method. Loss weight and loss dry matter (DM) of forage highest in sun drying method 7, 14 and 21 hours for each forage. Sun drying and oven 60°C method reduced moisture content to storage safety level (DM>86%) or moisture content <14%. Resulted Inorganic material (ash) forage after sun drying or oven 60°C is <10%. Organic matter (OM) was highest in oven 60°C (7 hours). Crude protein (CP) forage is strongly influenced by temperature and intensity of drying. Sun drying method resulted higher crude protein (CP) than oven 60°C. Oven 60°C method (21 hours) resulted highest dry matter (DM), lowest inorganic matter (ash), high organic material (OM), but can decrease crude protein (CP) of forage.

Keywords: drying technique, sun drying, oven, Panicum maximum, Brachiaria decumbens, Pueraria thunbergiana