Physical Properties and Palatability of Cassava Peel Wafer Complete Ration for Sheep

Y. Retnani, Nursita, R.G Pratas, M.N. Rofiq
Faculty of Animal Science, Bogor Agricultural University
e-mail: yuli.retnani@yahoo.com / weny.widiarti@yahoo.com

ABSTRACT

Cassava peel is waste product from cassava plant which have high carbohydrates that can be used such as source of energy for cattle. Percentage of cassava peel has 0.5-2% from total weight of fresh cassava and inside cassava peel has 8-15%. The usage of forage and agriculture by product increased with feed processing technology as wafer ration complete. The aim of this experiment was evaluate physical characteristic of wafer ration complete for sheep. The parameters observed were water content, water absorption, swelling and density. Analysis data that used were Completely Randomize Design, with four treatments and three replications. The treatments were R1 (70% concentrate + 0% cassava peel + 30% field grass), R2 (70% concentrate + 10% cassava peel + 20% field grass), R3 (70% concentrate + 20% cassava peel + 10% field grass) and R4 (70% concentrate + 30% cassava peel + 0% field grass). The results were subjected to ANOVA and Contrast Orthogonal Test (Steel and Torrie, 1993). The result of this experiment indicated that treatment has significantly influenced to water content, water absorption, swelling and density. The average of water content was 10.060-13.137%, average of water absorption was 82,490-169,780%, average of swelling was 35.697-102.295%, average of average density was 0.855-0.870 g/cm^3, and palatability wafer ration complete was 769-866 g/day/head. It concluded that cassava peel is able to be utilized field grass until 30% in wafer ration complete for sheep.

Key words: wafer complete ration, cassava peel, sheep, physical properties and palatability

INTRODUCTION

Quality and quantity of feed is sometimes constraint which need effort to requirement of maintenance, growth, and animal production, thus it need to look for some alternative raw material sources which do not compete with human requirement, having nutrient, cheap price, easy to get and safe consumed for animal. Agricultural waste, plantation and agro industrial can be processed to become feed, example: sugar cane sprout, cassava peel, coffee peel, bagasse, rice bran, copra meal and tofu waste (Mariyono, 2007).

Cassava production in Indonesian reaches 16,723,257 tons (Badan Pusat Statistik, 2002). Percentage of total peel waste is 0.5 - 2% of total weight fresh cassavas and inner skin wastes 8-15% (Grace, 1977) and if it converted by inner cassava skin amount that can be utilized as much as 2,508,489 tons of cassava production at Indonesian.

Cassava as feedstuff has many weaknesses for example low palatability and low cyanide acid contents (HCN) then constitutes curb factor in good usage for animal and human. Normal HCN content on cassava as weight as 15-400 ppm HCN/kg heavy fresh and human consumption cannot be more than 1 mg HCN/kg body weight per day (Balagopalan *et al*., 1988). One of the methods to remove or decrease of HCN on cassava is by soaking into deep water, boiling and drying on the sun shines or hot weather.

Efficiency increasing of foodstuff utilization has to be done through various technologies. Technology can be used for applying and increasing utilization of foodstuff. The utilization of field grass or agricultural waste can be increased by processing technology which is mixing between field grass or agricultural waste and concentrate to be wafer complete ration. Wafer complete ration has physic of compact type then it provided easy for handling and transportation, that inside of have food nutrition completes.

Garut sheep is a local sheep from Indonesia that spread widely in West Java, particularly in Garut regency which the sheep population reaches 337.036 head. Garut sheep has high