# Palatability of Urea Molases Multinutrient Moringa Block (UM3B) With Varian Different Dose on The Bali Cattle

*by* Abdul Malik

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# Palatability of Urea Molases Multinutrient Moringa Block (UM3B) With Varian Different Dose on The Bali Cattle

**Abd Malik*, Aam Gunawan, Siti Erlina, Neni Widaningsih and Rizkie E**

*Department of Animal Science, Faculty of Agriculture, Islamic University of Kalimantan Muhammad Arsyad Al Banjari Banjarmasin*
**Corresponding author: sidol_99@yahoo.com*

**Abstract**

The objective of this study was to determine of the palatability of urea molases multinutrient moringa block (UM3B)with different dose on the bali cattle. A total of 16 Bali cattle aged 2-4 years, sex ratio is the same, weight around 200-225kg was used in this study. The cows were divided into four groups, each group was consisting of 4 heads. Cows are placed in individual cages which are grouped according to the distribution of treatment groups. Feed given in the form of field grass and concentrate. The treatment in the first group (P0) was given UMMB without moringa, the second (P1) was given UM3B with the addition of moringa 5%, the third (P2) was given UM3B with the addition of moringa 10% and the fourth (P3) was given UM3B with the addition of moringa 15%. The parameters observed were consumption of UM3B and dry matter. The results showed that the consumption of UM3B had no significant difference (P <0.05) between the control with P1 and P2 treatment, but there was a difference significant (P> 0.05) between P3 treatment with control and all treatments. Dry matter consumption did not show significant differences (P <0.05) between controls with all treatments. Based on the results in this study, the provision of moringa flour at a level of 15% gives good results on UM3B consumption and there is a trend of increasing consumption of dry materials that are good.

**Key words**: *mess of moringa, Palatability, konsumtion, dry matter and digestibility*

## Introduction

One of the factors the success of cattle industry is the efficiency of use of the feed because around 60-70% of the expenses of livestock business expenses are spent on feed expenditure. Therefore, alternative steps are needed to reduce feed costs while still maintaining quality so that the appearance of livestock high.production. One effort that can be done to improve the appearance of livestock production is by providing additional feed in the form of urea molasses *multinutrient* moringa block (UM3B). Additional moringa leaf flour or known as moringa in the UMMB is a breakthrough in order to meet the nutritional needs of cattle feed to meet nutritional needs, considering that moringa flour has a very complete range of protein, vitamins, and minerals (Witariadi et al., 2011). The results of the study by Murro et al. (2003) showed that Moringa leaf flour can be used to supplement ruminant feed. While Melo et al. (2013); Shiriki et al. (2015); Nweze & Nwafeo (2014); Tekle at al. (2015) revealed that moringa leaf protein content reaches 28.44% of dry matter, is a cheap protein source that can reduce the cost of feed.

The use of moringa leaves as animal feed is very good because it has high nutritional value as well as abundant availability and can be cultivated throughout the year. This is very significant considering that during the dry season these materials can be used as additional feed when there is a shortage of grass. The use of Moringa flour for UM3B substitution is very essential to overcome cattle that experience malnutrition, especially during growth and mating season. On the other hand, Fuglie (1999) revealed that the high content of protein, minerals, and high vitamin E moringa is expected to increase the fertility of cattle.

In order to complete information about the use of moringa leaves in livestock, one of the important factors that must be studied is the palatability of the feed. Palatability is one of the important parameters used to see whether the feed ingredients are preferred or not by livestock. This is important because no matter how good the nutritional content of feed ingredients is if livestock is not / less like it will not be used for animal feed. Furthermore, Lubis et al. (2000) reported that information on palatability, digestibility and nutrient composition of feed is important so that the carrying capacity of forage can be estimated as animal feed.

Based on the description above, it is necessary to have data on the *palatability* of moringa leaves in the UM3B in order to meet the nutritional of the cattle. The objective of the study was to evaluate of the palatability of Urea *Molases Multinutrient* Moringa Block (UM3B) with Varian different dose on the Bali Cattle.

## Materials and Methods

The pleace of this study was carried out at the Lab. Integrated Animal Husbandry Faculty of Agriculture, Islamic University of Kalimantan MAB Banjarmasin in Rumpiang Village, Marabahan District, South Kalimantan Province. While, the materials was used in this study include moringa leaf flour, corn, molasses, urea, minerals, salt, lime and sago flour which are used to make UM3B formulas.

***Experimental animals***

A total of 16 bali cattle local Kalimantan were used in this study. The evarage body weight 200-250kg, aged of 2-4 years, the same sex ratio (male and female) and each cow was placed in an individual stall. Forage was provided in the form of decumbent bracaria grass and local grass was given around 10% of the body weight of each head. Additional feed in the form of rice bran and soybean skin were given as much as 2 kg / head / day. Moringa flour in the urea molases multinutrient moringa block (UM3B) was given in varying doses, including:

P0 (withaut Moringa)
P1 (added 5% of moringa)
P2 (added 10% of moringa)
P3 (added 15% of moringa)

The design of this study was used Completely Randomized Design (CRD) with 4 treatments and 4 replications in each treatment consisting of P0 P1, P2 and P3. The research was carried out for 28 days with details of 14 days of adaptation to the provision of UM3B and 14 days of observation and data collection. The first parameter observed was palatabilatas of cattle given UM3B at the same time. The second parameter observed was consumption of dry matter. The method of implementation and consumption calculation follows Paramita et al. (2008) and calculation from Harris (1970).

## Result and discussion

Based on the study on the evaluation of palatability of urea molasses multinutrient moringa block (UM3B) in the Bali cattle was shown in Table 1.

Table 1. Avarage consumtion of urea mulasses multinutrient moringa block (UM3B) each control and all group treatments.

| Treatments | Evarage of consumtion UM3B (g/head/day) |
|---|---|
| P0 (withaut Moringa) | 293± 1.02[a] |
| P1 (added 5% of moringa) | 301± 0.97[a] |
| P2 (added 10% of moringa) | 294± 0.83[a] |
| P3 (added 15% of moringa) | 357± 1.05[b] |

[a,b]*Values in the same column with different superscripts indicate significant difference at P<0.05*

Based on the statistical data was shown that the average consumption of UM3B in each treatment on the P1 and P2 there was no significant difference in the day's consumption with the control (P0). Whereas, in the treatment of P3 where the substitution of 15% of moringa flour in UM3B there was a significant difference in consumption between control and treatment of P1 and P2. The high difference in consumption in the treatment of P3 was thought to occur along with the addition of moringa flour in UM3B, thus impacting the increase in UM3B consumption. The results obtained from this study are generally in agreement with the findings of the previous study by Sjofjan (2008) reported that the administration of moringa leaves in feed can increase feed consumption and weight gain.

Table 2. Avarage consumption of dry matter each control and all group treatments.

| Treatments | Evarage of consumtion dry matter (kg/head/ day) |
|---|---|
| P0 (withaut Moringa) | 5.04± 0.72 |
| P1 (added 5% of moringa) | 5.25± 0.97 |
| P2 (added 10% of moringa) | 5.32± 0.83 |
| P3 (added 15% of moringa) | 5.61± 0.87 |

Based on the results of statistical analysis of the consumption of dry matter in all treatments showed that there were no significant differences between the control group and all treatments. Although statistically there was no real difference. Nevertheless, an interesting phenomenon occurs along with the increase in moringa flour in the treatment

of P3 which was followed by an increase in the average consumption of dry matter (Table 2).

Based on this phenomenon showed that treatment of P3 has a positive correlation between UM3B consumption and dry matter consumption, this illustrates the level of palatability in the feed. On the other hand, Faverdin et al. (1995) revealed that palatability was the main factor that explains the difference in consumption of dry matter between feed and livestock.

## Conclusion

Based on the results of this study it can be concluded that the palatability of Bali cattle to the administration of Urea molasses multinutrient moringa (UM3B) showed good results in moringa substitution in UM3B by 15%.

## Acnowlegment

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