1st ARCAP

1st ASEAN REGIONAL CONFERENCE on ANIMAL PRODUCTION 2014

Bridging technology gap for ASEAN animal production

and:

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4th-6th June 2014 | Riverside Majestic Hotel Kuching, Sarawak, Malaysia

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BRIDGING TECHNOLOGY GAP FOR ASEAN ANIMAL PRODUCTION

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&
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4 – 6 June 2014

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MALAYSIA

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SUPPLEMENTATION OF PERLAWIT (PERMEN LUMPUR SAWIT) AND TEMULAWAK COMBINATION TO INCREASE BALI CATTLE PRODUCTIVITY

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Jambi Province is one of the largest oil palm areas in Indonesia. According to the Plantation Department, in 2004, the total area for plantation was 337,000 ha. With that vast plantation area, the total production of palm oil can reach 719,568 ton/year. This situation will lead to a huge amount of oil palm wastes, such as the palm oil sludge which is predicted to be more than 35,978.4 ton/year. This palm oil sludge was the product of the extraction of crude palm oil (CPO).

In the other side, it is the government policy to increase the economic status of the rural society through enhancing the development of animal husbandry subsector through the spreading of livestock assistance in share dividend (Gaduhan) pattern. In the share dividend pattern, the system that applied is dividing the dividends based on the cattle weight achievement. The profit that can be obtained by a farmer will be determined by how much the increased weight that resulted at the end of the share dividend (Gaduhan) pattern. The increase of weight from the cattle that are raised will depend on the feed that was given over the production period. At the level of cattle breeder, the husbandry practice is generally the traditional method of whereby the main feed for the animals depend mainly on the natural grasses and native forages. As a result, the growth of the cattle cannot be optimized.

To solve the problems of low productivity and poor growth rates, attempts are taken to determine how oil palm by-products can be used to feed the cattle through the use of feed biotechnology. The technology we used processes the feed in the form of candy or a block to produce a feed supplement for the cattle (1). The use of oil palm sludge as the main ingredient mixed with the other feed in the specific proportion so that a multinutrient feed block is produced. The oil palm processing through this modified technique produced a product called “Perlavit”. To improve the quality of perlavit product, temulawak (Circum xanthorrhiza) is added to enhance the growth performance of the cattle. In this study several combination of perlavit and temulawak was used to determine the optimum level of temulawak (Cx) in the block.

The aim of this study was to evaluate the response to supplementation of perlavit-Cx nutrient block on intake and growth of Bali cattle. Twelve Bali cattle was allocated into four treatments, and given grass based diets supplemented with perlavit + 15% Cx (P1), perlavit + 20% Cx(P2), Perlavit + 25% Cx(P3) and (Perlavit + 30% Cx(P4) in a Randomized Block Design. Perlavit block were made using palm oil sludge mixed with molasses, rice bran, corn, limestone, urea, salt, TSP, mineral mix and cement (2). The variables that were measured were dry matter intake of ration, body weight gain, ration efficiency and the production cost (Indonesian rupiah) of perlavit - Cx/kg. (Table 1).

Results showed that there was no significant difference in dry mater intake, body weight gain and feed efficiency in cattle fed the treatment diets. However, perlavit + 15% Cx combination can be recommended to be used at farm level because the cost of perlavit + 15% Cx was lower than the other diets.
Table 1. Dry matter intake, body weight gain, feed efficiency and cost of production of Perlawit+Cx (rupiah/kg)

<table>
<thead>
<tr>
<th>Observation's Variable</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry matter of grass</td>
<td>17.86</td>
<td>16.97</td>
<td>16.10</td>
<td>15.68</td>
</tr>
<tr>
<td>(kg/unit/day)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of Perlawit</td>
<td>0.550</td>
<td>0.570</td>
<td>0.596</td>
<td>0.568</td>
</tr>
<tr>
<td>(kg/unit/day)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry matter intake</td>
<td>18.41$^a$</td>
<td>17.50$^a$</td>
<td>16.69$^a$</td>
<td>16.28$^a$</td>
</tr>
<tr>
<td>(kg/unit/day)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BWG (kg/unit/day)</td>
<td>0.54$^a$</td>
<td>0.55$^a$</td>
<td>0.61$^a$</td>
<td>0.44$^a$</td>
</tr>
<tr>
<td>Feed Efficiency (%)</td>
<td>3.03$^a$</td>
<td>3.13$^a$</td>
<td>3.64$^a$</td>
<td>2.71$^a$</td>
</tr>
<tr>
<td>Production Cost for 1 kg Perlawit (Rp)</td>
<td>6652.45</td>
<td>7043.10</td>
<td>7433.75</td>
<td>7824.40</td>
</tr>
</tbody>
</table>

Notes: Means with similar superscript within the same row are not significantly different (P>0.05)

1) Anis Wahde. 2001. Urea Molasses Block Supplementation (UMMB) for the Cultivation of Cattle Breeder. Journal delivered at National Seminar related to: The Application of Nuclear Technology for Human’s Prosperity: Nuclear Technology Application in Agriculture and Healthiness Sector at Agricultural Faculty, Lampung University, Banjarbaru.
