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Cassava leaves silage as feed supplement in ration of lactating dairy cows

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Key words : cassava leaves silage, feed supplement, lactating dairy cows

Introduction Protein is often the most limiting nutrient for dairy cattle in the tropics, especially during the dry season. This is due to the low crude protein content of concentrate feeds and in available forages such as fresh elephant grass, maize forages, and rice straw. To alleviate the problem, cassava leaves silage (CLS) was introduced as a feed supplement for lactating dairy cows in the dairy farms center of Batu district, East Java province, Indonesia through participatory training and on-farm feeding trials. CLS is known to contain CP more than 16% in DM basis (Dao Lan Nhi *et al.*, 2001; Kavana *et al.*, 2005). Increased livestock productivity including milk yield and body weight gain due to feeding CLS was reported by Dao Lan Nhi *et al.* (2001), Wanapat (2001), and Kavana *et al.* (2005).

Materials and methods An on-farm feeding trial of CLS to lactating dairy cows was conducted under collaboration with a group of dairy cattle farmers called as "Sumber Urip" (meaning "Source of Life") in Tlekung Village, Junrejo sub-district involving 35 farmers. The farmers were involved mainly in preparing CLS for training and in evaluating the impact of feeding CLS on milk yield. CLS were made from CL including petioles and soft stems according to the procedure of Kavana *et al.* (2005) using 3 kg molasses diluted with 2 kg water as an additive for every 100 kg CL. The trial ran for seven weeks and used six lactating cows of 4th to 5th month of lactation belonging to six farmers. The cows were managed and fed by the farmers according to the normal management as they have practiced. The cows were fed on elephant grass at 30 to 40 kg/head/day supplemented with commercial concentrate produced by local dairy cooperatives 5 to 8 kg/head/day. Starting during the 4th week of the trial, 6 kg/head/day of CLS was also given in addition to the usual feeds. Average daily milk yield and its protein and fat content of each cow before and during feeding CLS were compared. Farmer response towards feeding CLS as feed supplement was also observed.

Result and discussion The CLS prepared exhibited good smell and greenish color, except CLS in two fermentation bags which were moldy due to the damage to the bags. CP content of the CLS in this experiment was 17.98% which was similar to that reported by Dao Lan Nhi *et al.* (2001) but lower than that reported by Kavana *et al.* (2005). Besides having higher CP content than the elephant grass (9.23% CP) and concentrate feed (14.69% CP) used in the ration, participating farmers also noticed rations with CLS had better palatability. All cows entirely consumed the CLS additions in the ration without the need of an adaptation period. When grass and CLS were fed together, the cows preferred to consume the CLS first rather than grass. Feeding CLS to lactating dairy cows as feed supplement also increased daily milk yield from 12.40 ± 1.80 to 13.17 ± 2.39 liter/cow, and slightly increased milk protein and fat content. Same effects were also reported by IITA Annual Report (2004) and Kavana *et al.* (2005). Based on these experiences, the farmers were excited to use CLS as feed supplement, especially for their lactating dairy cows.

Conclusions Feeding CLS as feed supplement had been proved by farmers to increase their cow's milk yield. The farmers had been excited and shown good response in utilizing CLS as feed supplement for their lactating dairy cows.

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