

## RESULTS AND DISCUSSION

**Nutritional value.** Results showed the nutritional value of gedi leaves, that were high crude protein (20.18%), crude fiber (17.53%), calcium content (3.29%), amino acid lysine (4.5 mg/g), and positive bioactives steroid and flavonoid.

**AME and AMEn.** Results showed that the value of AME (Table 1) for R2 and R3 diets were significantly lower than control diet and R1 diet. Nadeem *et al.* (2005) reported that plant origin diet contain high NSP (non-starch polysaccharide), such as arabinoxylan, glucan and pectin that are bonded to each other and it would be difficult to be digested by birds. Soluble NSP affect digestibility and absorption of nutrients in poultry, because soluble NSP is able increase digesta viscosity. Caprita *et al.* (2010) reported that when digesta viscosity increases due to the NSP, the diffusion will decrease.

Insoluble NSP will form the bulk of the total fiber in the diet. These polysaccharides have the ability to absorb water in greater amounts (Saki *et al.*, 2011). That soluble NSP generally inhibit the digestive process while the insoluble NSP physically impede access endogenous enzyme substrate. High fiber in feed ingredients caused bulkiness of feed and lower energy concentration (Zarei, 2006). From this discussion it can be stated that soluble and insoluble NSP of 10% and 15% of GLM were used in the study contribute to lowering the AME value of this research.

**Table 1.** Effects of dietary gedi leaves meal on AME, AMEn, crude protein and crude fiber digestibility of broilers

Parameters	Dietary Treatments			
	R0	R1	R2	R3
AME (Kkal/kg)	2844 ± 81.44c	2775 ± 139.60c	2534 ± 27.90b	2081 ± 108.79a
AMEn (Kkal/kg)	2788 ± 77.00c	2722 ± 134.20c	2488 ± 28.37b	2057 ± 105.50a
N Retention (g)	6.4 ± 0.51	6.1 ± 0.65	4.7 ± 0.11	2.7 ± 0.38
ACP Digestibility (%)	55.2 ± 4.29b	62.7 ± 6.61c	54.5 ± 1.22b	34.9 ± 4.70a
ACF Digestibility (%)	42.1 ± 5.55b	43.9 ± 9.93b	40.8 ± 1.58b	28.7 ± 5.14a

Notes: ACP = apparent crude protein; ACF = apparent crude fiber

The values of AMEn for R2 and R3 diets were significantly lower than control diet. McDonald *et al.* (2010) stated that the calculation of ME needs to be corrected for the effect of N that because of the ability of animals to utilize the gross energy of feed protein value.

**Crude protein.** Crude protein digestibility values significantly increased in diet of 5% gedi leaves (R1), but decreased in the provision of 10% and 15% of gedi leaves. Nabizadeh (2012) stated that the saponins lower the digestibility of proteins through the formation of protein complexes that are difficult to digest. The reducing of digestibility of crude protein treatment of 10% and 15% may be caused by the influence of saponins in the feed that form complexes with proteins, so it becomes difficult to digest protein. Also probably of increasing of the NSP. This agrees with the submission of Delorme and Wojcik (2012) reported that as dietary fibre increased, adequate protein nutrition becomes critical. The findings of the present study are in contrast with the findings of Nabizadeh (2012) who reported that supplementation of herbal plants leaf extracts significantly improved crude protein digestibility of the rations. Also, Awad *et al.* (2011) reported that supplementation of herbal plants extract in broiler improved the crude protein digestion and absorption.