

Genetics characterization, nutritional and phytochemicals potential of gedi leaves (*Abelmoschus manihot* (L.) Medik) growing in the North Sulawesi of Indonesia as a candidate of poultry feed

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ABSTRACT:

Gedi, local name of *Abelmoschus manihot* (L.) Medik was used by local people in Northern Sulawesi-Indonesia as vegetable, because of its medicinal properties. The potency of gedi leaves in broiler diet has not been reported in literatures. The objective of this research was to investigate a genetic diversity of gedi commonly consumed as a gourmet cuisine in the North Sulawesi of Indonesia, and exploring the potential of this plant as a herb plant for a candidate of poultry feedstuff. Eight morphologically different gedi leaves (GH1, GH2, GH3, GH4, GH5, GH6, GM1 and GM2) that grow in Manado area, North Sulawesi of Indonesia were collected and identified. The leaves were extracted for DNA isolation followed by PCR and DNA sequencing analysis. During DNA isolation, 3 of 6 GH (GH4, GH5, GH6) were discontinued because of difficulty in separating the mucilage properties. Following PCR analysis, GH2 and GH3 did not produce bands and consequently were excluded from further analysis. In addition to that, chemical analysis was also performed to determine the phytochemical and nutritional contents. The results indicated that all gedi leaf samples showed similarity (99%) to species member of *Abelmoschus manihot*, and tribe of Malvaceae. In terms of proximate analysis, gedi leaves showed high crude protein (18.76 - 24.16%) and calcium (2.92-3.70%) content. Also, showed high crude fibre (13.06-17.53%). Together with the presence of alkaloid and steroidal saponin gedi leaves may offer beneficial effects as poultry feedstuff to a special production trait such as cholesterol-less meat.

Keywords:

Abelmoschus manihot, Genetic characterization, Nutritional analysis, Phytochemical constituents.