MAJOR NUTRIENTS AND ANTI-NUTRIENTS FOUND IN LEAFY VEGETABLES; POTENTIAL TO USE IN FISH FEED

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Decreasing availability and continuously fluctuating prices of fishmeal cause to focus on finding low cost alternative plant protein sources in fish feed preparation. Plant based sources are potential feed ingredients as they are readily available throughout the year and in some seasons due to over production, excess amounts are wasted. However, most plant ingredients contain anti-nutrients which can affect fish growth. Therefore, a study was conducted to assess the nutritional and anti- nutritional contents of some leafy vegetables found in Sri Lanka. Nutritional and anti - nutritional contents of leaves of *Amaranthus viridis* (Mukunuwenna), *Centella asciatica* (Gotukola), *Basella alba* (Spinach), *Raphanus sativus* (Radish) and *Ipomoea aquatic* (Kankun) leaves were analyzed. The percent crude protein was in between 13.47 (spinach) – 27.28 (Kankun) %. The mean range of crude lipid was recorded as 2.24 (Gotukola) – 5.24 (Kankun) %. Moisture and ash contents were ranged from 68.70 (Amaranthus) – 95.03 (spinach) % and 9.01 (Amaranthus) - 21.14 (spinach) %, respectively. Crude fiber was ranged from 3.22 (spinach) – 11.95 (Amaranthus) %. The analyzed ingredients had trace amounts of Na (0.00- 0.15 %), P (0.04 – 0.80 %) and K (0.25 - 0.93 %). Dietary saponins, greater than 0.15 %, can retard growth of fish and all the ingredients were above the tolerance limit. Above the level of 0.5 % of phytic acid is detrimental for fish and except kankun and radish others were below the limit. Tannins should be less than 2 % however, all the ingredients exceeded this level. Cyanides were ranged as 50.14-114.74 mg/ 100 g. This study suggests that Kankun and Radish leaves could be used as feed ingredients in fish diets as they contained crude proteins and lipids in appreciable amounts for fish feed preparation. However, the suitability of those ingredients should be further evaluated by carrying out growth trials for fish.

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