ECONOMIC IMPORTANCE OF EVASIVE NIPA PALM (NYPA FRUTICANS WURMB) FROM NUTRITIONAL POINT OF VIEW.

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INTRODUCTION

Nypa fruticans Wurmb is a species of palm found in coastlines and estuarine habitats, mostly in areas of low or moderate salinities and calm water. Young nipa palm fruit has sweet edible sap which is used for production of alcoholic drink, sugar, syrup, vinegar and beverage. The leaves are traditionally used as roofing material (thatch) and tobacco wrappers while the frond are woven into hats, baskets and cane chairs (Anon, 2005, Teo et al., 2010). This study analyzes the proximate, mineral, and amino acid profile of the seed, husk and frond of N. fruticans obtained from Cross River estuary

MATERIALS AND METHODS

Proximate Analysis: The moisture, ash, crude protein, crude fiber and fat was determined according to standard method of AOAC (2005). Amino acid was determined using HPLC method. Mineral composition was determined using AOAC (2005).

RESULTS

TABLE 1

Proximate composition of seed, husk and frond of *Nypafruticans*

Samples	Moisture Mean ± SD	Ash Mean ± SD	Fibre Mean ± SD	Crude protein Mean ± SD	Lipids Mean ± SD	Carbohydrate Mean ± SD
Nypa palm seed	13.893 ±0.233^{d}	4.086 ± 0.240^{b}	4.570 ±0.237^{a}	15.556 ±0.240^{d}	5.780 ±0.208^{b}	58.840 ±0.251^{b}
Nypa palm Husk	9.760 ± 0.251^{a}	3.226 ±0.260^{b}	1.686 ±0.284^{c}	7.896 ±0.260^{a}	2.706 ±0.284^{a}	77.790 ±0.264^{c}
Nypa palm frond	6.950 ±0.264^{b}	5.390 ±0.264^{b}	3.483 ±0.233^{a}	13.226 ±0.185^{e}	3.610 ±0.208^{a}	69.973 ±0.233^{d}

TABLE 2: Mineral elements composition (mg/100g)

MINERALS	SEED	HUSK	FROND
Ca	186.803± 0.233^{d}	86.196± 0.240^{e}	151.213±0 .176^{f}
K	98.050±0.173^{d}	45.393±0.233^{a}	66.050±0.230^{e}
Na	265.950±0.208^{d}	122.616±0.240^{e}	178.773±0.233^{f}
Mg	16.683±0.218^{d}	105.413±0.218^{e}	48.623±0.202^{f}
P	136.930±0.230^{a}	117.853±0.218^{e}	136.676±0.260^{a}
Fe	48.906±0.227^{c}	32.433±0.233^{e}	56.820±0.264^{d}

Table 3: Amino Acid Composition (mg/100g)

Amino Acids	Seed	Husk	frond	Fish meal IAFMM (1970)	FAO reference (1957)	NRC 1998 Fishmeal
Phenylalanine	5.620±0.174^{d}	7.496±0.240^{e}	3.453±0.233^{a}	3.91	4.55	2.66
Lysine	10.793±0.233^{d}	8.750±0.152^{e}	3.996±0.202^{a}	7.77	6.85	5.11
Histidine	1.056±0.240^{a}	0.830±0.264^{a}	0.573±0.233^{a}	2.45	1.76	1.56
Methionine	1.236±0.260^{a}	1.443±0.233^{a}	0.806±0.185^{a}	2.86	3.58	1.95
Arginine	4.813±0.218^{a}	3.483±0.176^{d}	1.750±0.208^{c}	5.84	4.58	3.68
Leucine	6.676±0.260^{a}	8.603±0.233^{a}	3.910±0.208^{c}	7.50	4.20	5.00
Threonine	2.930±0.230^{a}	1.840±0.230^{a}	1.086±0.260^{a}	4.26	4.55	2.82
Valine	0.676±0.260^{b}	0.846±0.284^{b}	0.520±0.208^{a}	5.41	6.85	3.51
Tryptophan	0.373±0.176^{a}	0.526±0.260^{a}	0.520±0.264^{a}	1.15	2.28	0.76
Alanine	8.080±0.152^{e}	1.3700±0.264^{a}	0.836±0.260^{a}	6.25	2.67	-
Glutamic acid	2.870±0.208^{d}	3.750±0.264^{d}	1.766±0.202^{c}	12.77	17.56	-
Serine	1.743±0.233^{a}	2.030±0.173^{a}	1.106±0.185^{a}	3.82	5.34	-
Aspartate	3.453±0.233^{a}	4.436±0.260^{a}	2.043±0.176^{b}	9.10	8.79	-

CONCLUSION

The rich nutritional contents of Nypa fruticans seed, husk and frond from Cross River Estuary based on its proximate, biochemical and balanced amino acid profile necessitates its being recommended as an alternative in enhancing fish nutrition in commercial aquaculture.