LATIN AMERICA FEEDSTOCKS COMPOSITION

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INTRODUCTION

The increasing reliance on imported diesel fuels, in addition to annual increase in the quantities of organic wastes are threats to the European Union (EU) and Latin America (LA). Traditionally, first generation biofuels compete with foods. The use of wastes as feedstocks for biofuel production can provide sustainable and economical alternatives to the landfill and incineration of wastes, which are inefficient and, moreover, produce significant greenhouse gas emissions. UNICAMP selected feedstocks of low value, abundant and composed mainly of lignocellulose.

EXPERIMENTAL

The present study aims to identifying renewable sources available in Brazil such as açai seed, coconut fibers, coffee husks., rice husks, soy peel, eucalyptus sawdust, elephant grass, bamboo, banana stem and banana stalk. Therefore the samples were examined for their chemical characteristics: proximate and ultimate analyze, calorific value, *Near-infrared spectroscopy* (NIR), *UV-spectroscopy*, High-pH *Anion*-Exchange Chromatography with Pulsed Amperometric Detection (HPAEC-PAD) and Accelerated Solvent *Extraction* (ASE).

Table 1. Chemical composition of the Latin America feedstocks (%).

BIOMASS	ARABINOSE	GALACTOSE	RHAMNO	GLUCOSE	XYLOSE	MANOSE	TOTAL SUGARS	TOTAL LIGNIN	EXTRACTIVE	ASH	TOTAL
SOY BEAN	4.64	3.13	0.92	35.05	9.85	4.31	57.90	7.58	6.81	4.14	77.00
RICE HUSKS	1.70	0.83	0.13	36.17	16.65	0.49	55.98	23.90	2.32	12.5	95
SADWUST	0.26	1.23	0.25	38.79	9.72	0.35	50.60	32.87	8.12	0.63	92
BAMBOO	0.81	0.32	0.06	44.65	14.78	0.07	61.57	17.64	12.62	2.81	95
GRASS	3.56	1.22	0.10	27.52	16.12	0.24	48.84	15.61	11.54	12.66	89
COCONUT	1.79	0.71	0.30	32.41	14.37	0.35	49.94	35.87	1.41	2.63	90
AÇAÍ SEED	0.69	1.43	0.17	8.66	3.18	53.59	67.71	17.26	9.5	0.46	95
BANANA Stalk	2.89	1.18	0.27	26.83	6.94	1.46	39.56	10.68	22.85	10.33	84
BANANA Stem	2.37	0.72	0.16	36.32	5.36	0.61	45.53	8.38	25.15	10.30	90
COFFEE	1.62	1.54	0.51	35.33	21.89	1.68	62.55	24.46	4.21	4.00	95

Biomass	Proximate analysis (wt%)				Ultimate analysis (wt%)				Calorific Value (MJ/kg)
	Ash	Moisture	Volatile matter	Fixed carbon	C	H	N	O	
Açai seed	0.69	13.27	80.77	18.50	47.60	6.40	0.78	45.22	18.60
Banana stem	10.00	12.56	80.27	9.96	39.00	5.44	0.82	45.30	16.13
Banana stalk	10.50	8.04	73.25	22.13	37.95	4.73	1.46	44.14	15.53
Bamboo	1.71	9.01	81.08	17.20	44.60	5.55	0.91	51.00	18.33
Coconut shell	2.96	9.87	77.00	20.05	47.40	5.41	0.55	53.40	18.40
Coffee husks	2.00	10.00	75.40	22.70	43.34	5.55	2.25	51.00	18.06
Eucaly. sawdust	0.11	10.10	83.88	16.00	50.30	6.08	0.15	56.50	20.00
Grass elephant	13.00	8.10	76.50	10.81	42.00	5.21	2.03	49.24	16.77
Rice husks	12.50	8.00	71.24	16.27	35.86	4.40	0.28	40.54	16.35
Soy peel	4.00	9.13	88.81	7.23	45.04	6.70	2.90	54.64	17.90

CONCLUSIONS

Utilization of natural and renewable resources is very important for an economically viable and environmentally sound society. The feedstocks selected for this study are abundant in Brazil. The physico-chemical characterization of these samples showed that all residues are potential candidate for biorefiniring technologies.

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