AFTER

Composition and antioxidant activity of four varieties of *Ziziphus* fruits (jujube) from savannah regions of Cameroon

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THE jujube tree, a species belonging to the genus Ziziphus and the family *Rhamnaceae,* is widely spread in the tropical and subtropical regions of Africa. In the savannah region of Cameroon, the fruit, locally called Jaabi, is represented by 4 ecotypes (locally named: *Jaabi dakamji, Jaabi lammuji, Jaabi hadinga, Kurnadje*) described by Arbonnier (2002), belonging to 3 species.

Ziziphus mauritiana

Jaabi Dakamji
Ø (fruit): 1.37 ± 0.09 cm
Ø (core): 0.88 ± 0.08 cm
Color: dark brown
Taste: sweet

Jaabi Lammuji
Ø (fruit): 1.38 ± 0.10 cm
Ø (core): 0.85 ± 0.07 cm
Color: brownish
Taste: acid - sweet

Manque la photo
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Ziziphus mucronata

Jaabi hadinga
Ø (fruit): 1.76 ± 0.31 cm
Ø (core): 1.29 ± 0.34 cm
Color: dark reddish
Taste: bitter

Manque la photo
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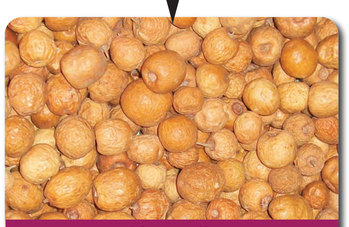
Ziziphus spina-christi



Kurnadje
Ø (fruit): 1.69 ± 0.18 cm
Ø (core): 0.98 ± 0.08 cm
Color: dark yellowish
Taste: slightly bitter

Composition

Total sugar (g/100g DW)	28.54±0.31c	35.62±0.15d	11.28±0.19b	7.85±0.07a
Free sugar (g/100g DW)	14.37±0.15c	18.79±0.08d	1.12±0.02a	3.52±0.03b
Vit C (mg/100 g QW)	92.49±0.71d	81.20±1.20c	24.61±0.13a	30.07±0.66b
Carotenoids (µg/100g DW)	42.19±0.30 c	62.33±0.61 d	34.99±0.18 a	38.60±0.20 b
Total Polyphenols (g/100g DW)	1.65±0.19c	1.27±0.07b	3.92±0.08d	0.72±0.05a
– Flavonoids (g/100 g DW)	0.70±0.04b	0.98±0.01d	0.91±0.02c	0.20±0.01a
– Anthocyans (g/100g DW)	0.33±0.08b	0.09±0.01a	0.56±0.05c	0.01±0.00a
– Tanins (g/100g DW)	0.00±0.00a	0.00±0.00a	2.76±0.10c	0.22±0.02b
Triterpenoic acids (g/100g DW)	1.15±0.11 c	1.83±0.06d	0.93±0.03 b	0.59±0.04 a
Alcaloids (g/100g DW)	0.21±0.07 a	0.16±0.04 a	3.09±0.47 c	1.22±0.85 b

Antioxidant activity

	Jaabi Dakamji		Jaabi Lammuji		Jaabi hadinga		Kurnadje	
	Peel	Pulp	Peel	Pulp	Peel	Pulp	Peel	Pulp
TEAC (mM trolox/g MS)	59.36±0.26	39.32±1.63	44.27±0.86	35.31±1.03	38.72±0.44	29.74±2.13	8.68±0.70	7.36±0.56
DPPH (mM trolox/g MS)	43.08±0.42	29.94±1.19	30.69±0.54	25.71±2.88	24.12±1.33	17.02±1.69	5.96±0.88	5.01±0.76
FRAP (mM trolox/g MS)	16.76±0.67	11.10±1.01	17.48±0.62	12.63±1.18	18.71±0.56	13.14±0.74	1.16±0.20	0.90±0.08

TEAC= Trolox equivalent activity capacity DPPH= 1,1'-diphenyl-2-picrylhydrazyl FRAP= ferric reducing antioxidant power

- Significant content of bioactive components, comparable to some Indian and Chinese varieties of Ziziphus (Jin-Wei Li et al., 2007; Troyan & Kruglyakov, 1972). Antioxidant acivity is higher in peels than in pulp, justifying the fact that Jaabi grains are eated and processed as a whole.
- These results suggest that Jaabi may be used as potential nutraceutical food against inflammatory diseaeses.

References

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SEVENTH FRAMEWORK PROGRAMME