

***Mangifera sylvatica* (Wild Mango): A new cocoa butter alternative**

Sayma Akhter^{1*}, Morag McDonald¹ & Ray Mariott²

¹*School of Environment, Natural Resources and Geography, Bangor University, Gwynedd, LL57 2UW, UK (Corresponding author: azs007@bangor.ac.uk/ sayma_sust@yahoo.com)*

²*Biocomposites Centre, Bangor University, Gwynedd LL57 2UW, UK*

Supplementary materials

Supplementary Table 1: Fatty acid content of different butters

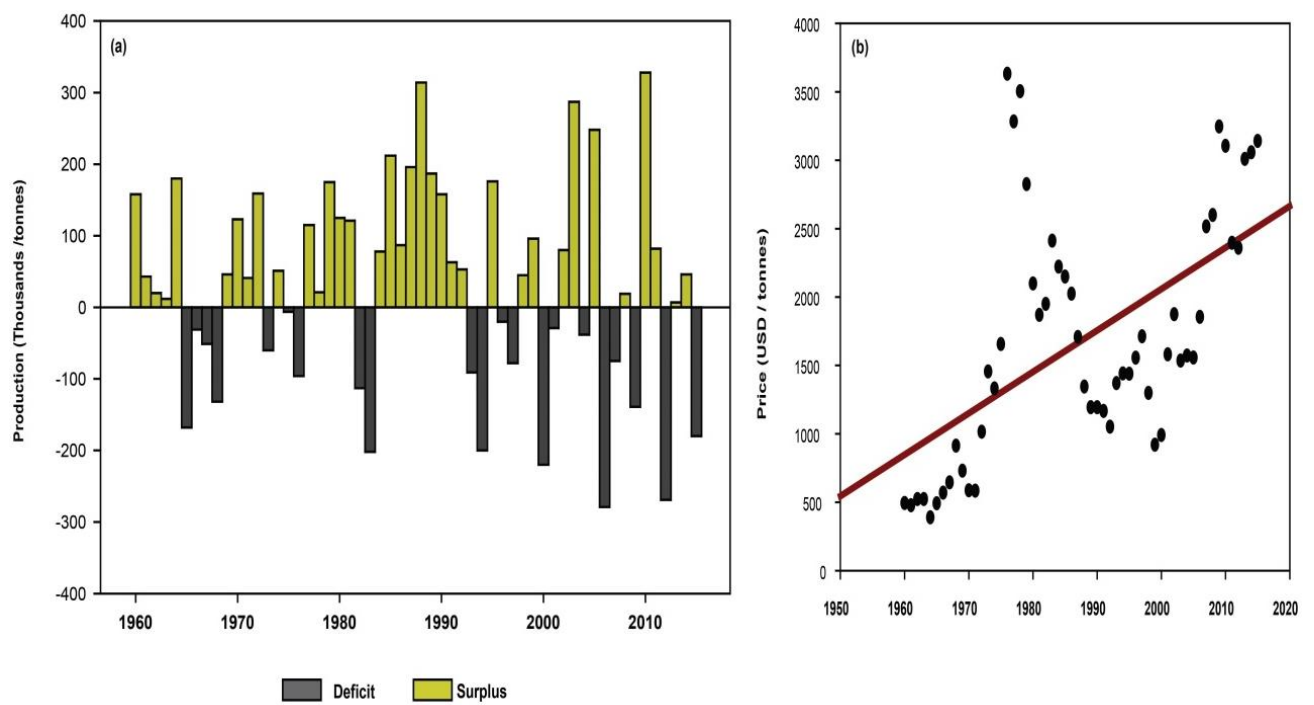
Species	Butter	Saturated fatty acid (%)	Unsaturated fatty acid (%)
<i>Mangifera sylvatica</i>	Wild mango butter (WMB)	56,44 ^a	43,56 ^a
<i>Mangifera indica</i>	Domesticated mango butter (DMB)	57,51 ^a	42,49 ^a
<i>Theobroma cacao</i>	Cocoa butter deodorized (CBD)	65,78 ^b	34,22 ^b
<i>Theobroma cacao</i>	Cocoa butter non deodorized (CBND)	65,30 ^b	34,70 ^b

Different letters represent significant differences (P< 0.05)

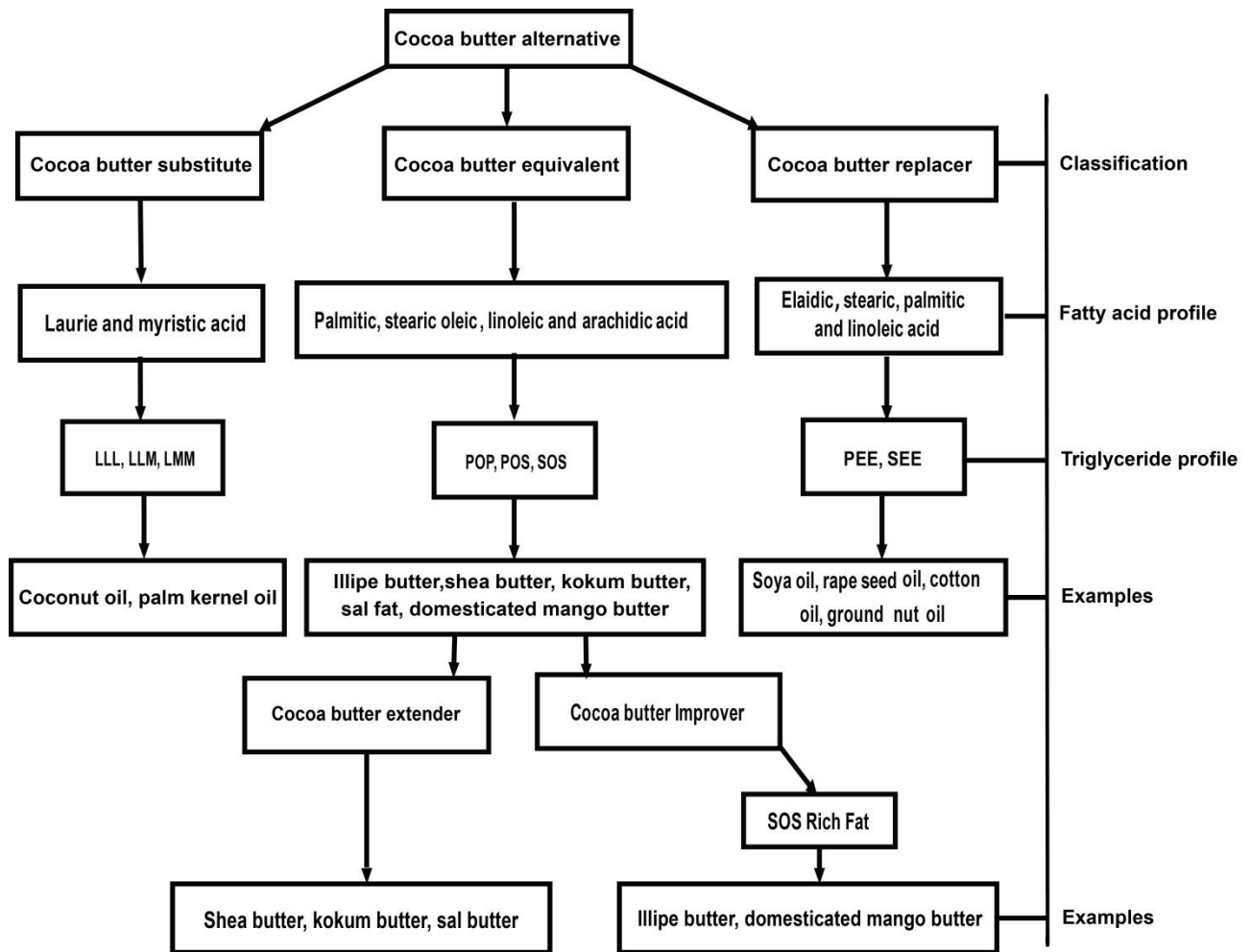
Supplementary Table 2: Fatty acid profile of different butters

Butter	Saturated fatty acid (%)			Unsaturated fatty acid (%)	
	Palmitic Acid (16:0)	Stearic Acid (18:0)	Arachidic Acid (20:0)	Oleic Acid (18:1)	Linoleic Acid (18:2)
DMB	12,18 ^b	44,53 ^b	0,80 ^c	38,18 ^b	4,31 ^a
WMB	5,86 ^c	48,23 ^a	2,34 ^a	41,12 ^a	2,45 ^b
CBD	27,24 ^a	37,53 ^c	1,01 ^b	32,42 ^c	1,80 ^b
CBND	26,25 ^a	38,02 ^c	1,03 ^b	32,66 ^c	2,04 ^b

Different letters represent significant differences (P< 0.05)



Supplementary Figure 1: Cocoa butter production and price from 1960 to 2015 (ICCO 2016a; ICCO 2016b)



Supplementary Figure 2: Cocoa butter alternative classification (adapted and modified from Lipp and Anklam 1998)

Supplementary references

ICCO 2016a. ICCO Quarterly Bulletin of Cocoa Statistics, Vol. XLII, No. 1, Cocoa year 2015/16 Published: 26-02-2016. Available at http://www.icco.org/about-us/international-cocoa-agreements/cat_view/30-related-documents/47-statistics-supply-demand.html

ICCO 2016b. ICCO Monthly Averages of Daily Prices. Available at <http://www.icco.org/statistics/cocoa-prices/monthly-averages.html>

Lipp, M. & Anklam E. Review on cocoa butter and alternatives for use in chocolate. Part A: Compositional data. *J. Food Chem.* **62** (1), 73-97 (1998).