Supplementary material

Table S1 - Statistical analysis of seasonal variation of the main physicochemical parameters of buffalo colostrum during first seven days *postpartum* (Friedman ANOVA – differences between days)

Physicochemical parameters	change (day)	Overall (N = 10, *df* = 6)		Summer (N = 5, *df* = 6)		Winter (N = 5, *df* = 6)	
		χ^2	*P*	χ^2	*P*	χ^2	*P*
Fat	4 ↓	59.61	< 0.0001	29.66	< 0.0001	30	< 0.0001
Protein	4 ↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Lactose	4 ↑	58.41	< 0.0001	29.31	< 0.0001	29.14	< 0.0001
Total solids	4 ↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Ash	2 ↑	50.80	< 0.0001	26.77	0.0002	25.18	0.0003
pH	3 ↑	58.37	< 0.0001	29.91	< 0.0001	2862	< 0.0001

Tabel S2 - Comparative analysis of the main physicochemical parameters of buffalo colostrum in summer and winter seasons (Wilcoxon Matched Pairs Test – summer vs. winter)

Physicochemical parameters	Higher in	*Z*	*P*
Fat	summer	4.169	< 0.0001
Protein	summer	5.119	< 0.0001
Lactose	summer	4.324	< 0.0001
Total solids	summer	4.078	< 0.0001
Ash	summer	5.086	< 0.0001
pH	summer	4.342	< 0.0001

Table S3 - Statistical analysis of seasonal variation of some fatty acids and cholesterol from buffalo colostrum during first seven days *postpartum* (Friedman ANOVA – differences between days)

Acid	change	Overall (N = 10, *df* = 6)		Summer (N = 5, *df* = 6)		Winter (N = 5, *df* = 6)	
		χ^2	*P*	χ^2	*P*	χ^2	*P*
SFA							
Butyric acid (C4:0)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Caproic acid (C6:0)	↓	58.93	< 0.0001	30	< 0.0001	30	< 0.0001
Caprylic acid (C8:0)	↓	58.16	< 0.0001	30	< 0.0001	28.46	< 0.0001
Capric acid (C10:0)	↓	56.1	< 0.0001	30	< 0.0001	29.49	< 0.0001
Lauric acid (C12:0)	↓	57.86	< 0.0001	30	< 0.0001	30	< 0.0001
Myristic acid (C14:0)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Pentadecylic acid (C15:0)	↓	55.82	< 0.0001	29.91	< 0.0001	30	< 0.0001
Palmitic acid (C16:0)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Margaric acid (C17:0)	↓	57.6	< 0.0001	28.97	< 0.0001	29.14	< 0.0001
Stearic acid (C18:0)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
MUFA							
Myristoleic acid (C14:1)	↓	55.46	< 0.0001	29.23	< 0.0001	28.89	< 0.0001
Cis-10-pentadecanoic acid (C15:1)	↓	53.01	< 0.0001	27.09	< 0.0001	26.91	< 0.0001
Palmitoleic acid (C16:1)	↓ day 4	54.21	< 0.0001	29.49	< 0.0001	27.77	0.0001
Oleic acid (C18:1)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Elaidic acid (C18:1iso)	↓	58.59	< 0.0001	29.66	< 0.0001	29.49	< 0.0001
PUFA							
Linoleic acid (C18:2)	↓	60	< 0.0001	30	< 0.0001	30	< 0.0001
Cholesterol	↓	52.93	< 0.0001	29.66	< 0.0001	26.66	0.0002

Tabel S4 - Comparative analysis of some fatty acids and cholesterol from buffalo colostrum in summer and winter seasons (Wilcoxon Matched Pairs Test – summer vs. winter)

Acid	Higher in	*Z*	*P*
SFA			
Butyric acid (C4:0)	summer	4.783	< 0.0001
Caproic acid (C6:0)	summer	5.143	< 0.0001
Caprylic acid (C8:0)	summer	4.39	< 0.0001
Capric acid (C10:0)	summer	4.472	< 0.0001
Lauric acid (C12:0)	summer	5.127	< 0.0001
Myristic acid (C14:0)	summer	5.159	< 0.0001
Pentadecylic acid (C15:0)	summer	3.522	< 0.0001
Palmitic acid (C16:0)	summer	5.159	< 0.0001
Margaric acid (C17:0)	summer	5.127	< 0.0001
Stearic acid (C18:0)	summer	5.061	< 0.0001
MUFA			
Myristoleic acid (C14:1)	summer	5.159	< 0.0001
Cis-10-pentadecanoic acid (C15:1)	summer	2.488	0.0129
Palmitoleic acid (C16:1)	summer	5.012	< 0.0001
Oleic acid (C18:1)	summer	5.159	< 0.0001
Elaidic acid (C18:1iso)	summer	4.897	< 0.0001
PUFA			
Linoleic acid (C18:2)	summer	4.422	< 0.0001
Cholesterol	summer	4.832	< 0.0001

Table S5 - Method validation for cholesterol quantification by HPLC-UV (n = 3)

Sample	mg/L	Recovery (%)
Intra-day	40	98±5
	80	93±4
Interday	40	96±4
	80	92±4
LOD (mg/L)	1.97	
LOQ (mg/L)	6.56	

LOD: limit of detection calculated with a signal to noise ratio 3 to 1
LOQ: limit of quantification calculated with a signal to noise ratio of 10 to 1