

Back to article

Table S1. pH values of spinach lemon juice formulations

Sample	Original sample	pH			
		Initial phase	Salivary phase	Gastric phase	Intestinal phase
S	(5.06±0.05) ^{aD}	(6.66±0.04) ^{aC}	(6.82±0.07) ^{aB}	(2.24±0.01) ^{aE}	(7.04±0.02) ^{aA}
S+L ₂	(4.65±0.01) ^{bD}	(6.60±0.02) ^{bC}	(6.65±0.01) ^{bB}	(2.10±0.02) ^{bE}	(6.70±0.01) ^{bA}
S+L ₅	(4.04±0.02) ^{cD}	(6.13±0.03) ^{cC}	(6.16±0.02) ^{cB}	(2.04±0.01) ^{cE}	(6.64±0.01) ^{cA}
S+L ₁₀	(3.83±0.01) ^{dD}	(5.29±0.02) ^{dC}	(5.28±0.02) ^{dB}	(1.94±0.01) ^{dE}	(6.30±0.01) ^{dA}
S+L ₂₀	(3.34±0.01) ^{eC}	(4.45±0.03) ^{eB}	(4.39±0.01) ^{eB}	(1.78±0.02) ^{eD}	(6.12±0.02) ^{eA}

Data are presented as mean value±S.D, N=4. Different lower case letters indicate significant differences at $p \leq 0.05$ in each phase separately. Capital letters indicate significant differences at $p \leq 0.05$ among all phases. S=spinach, φ (lemon juice)=2, 5, 10 and 20 % (L₂, L₅, L₁₀ and L₂₀)

Back to article

Table S2. Pearson's correlation coefficient between total polyphenols, oxalic acid and nitrates (determined spectrophotometrically), antioxidant activity and pH in digested (salivary phase, gastric phase and intestinal phase) spinach lemon juice formulations

Salivary phase	TP/ (mg/g)	TF/ (mg/g)	TPA/ (mg/g)	OA/ (mg/g)	Nitrate/ (mg/g)	DPPH/ %	DPPH/ (μ mol/g)	FRAP/ %	FRAP/ (μ mol/g)	pH
TP/(mg/g)	1.000									
TF/(mg/g)	0.502	1.000								
TPA/(mg/g)	0.875	0.567	1.000							
OA/(mg/g)	0.788	0.615	0.943	1.000						
Nitrate/(mg/g)	0.809	0.406	0.833	0.766	1.000					
DPPH/%	0.726	0.418	0.922	0.935	0.718	1.000				
DPPH/(μ mol/g)	0.725	0.416	0.922	0.934	0.718	1.000	1.000			
FRAP/%	0.850	0.590	0.967	0.901	0.731	0.868	0.868	1.000		
FRAP/(μ mol/g)	0.829	0.609	0.975	0.986	0.769	0.940	0.939	0.961	1.000	
pH	-0.748	-0.560	-0.946	-0.966	-0.714	-0.976	-0.973	-0.932	-0.980	1.000
Gastric phase	TP/ (mg/g)	TF/ (mg/g)	TPA/ (mg/g)	OA/ (mg/g)	Nitrate/ (mg/g)	DPPH/ %	DPPH/ (μ mol/g)	FRAP/ %	FRAP/ (μ mol/g)	pH
TP/(mg/g)	1.000									
TF/(mg/g)	0.795	1.000								
TPA/(mg/g)	0.735	0.906	1.000							
OA/(mg/g)	0.840	0.875	0.938	1.000						
Nitrate/(mg/g)	0.738	0.448	0.570	0.770	1.000					
DPPH/%	0.640	0.758	0.658	0.747	0.614	1.000				
DPPH/(μ mol/g)	0.634	0.753	0.651	0.740	0.609	1.000	1.000			
FRAP/%	0.710	0.781	0.897	0.927	0.750	0.817	0.812	1.000		
FRAP/(μ mol/g)	0.801	0.858	0.941	0.988	0.769	0.792	0.786	0.974	1.000	
pH	-0.788	-0.773	-0.822	-0.940	-0.836	-0.867	-0.863	-0.959	-0.964	1.000
Intestinal phase	TP/ (mg/g)	TF/ (mg/g)	TPA/ (mg/g)	OA/ (mg/g)	Nitrate/ (mg/g)	DPPH/ %	DPPH/ (μ mol/g)	FRAP/ %	FRAP/ (μ mol/g)	pH
TP/(mg/g)	1.000									
TF/(mg/g)	0.350	1.000								
TPA/(mg/g)	0.757	0.277	1.000							
OA/(mg/g)	0.593	0.115	0.964	1.000						
Nitrate/(mg/g)	0.761	0.427	0.867	0.792	1.000					
DPPH/%	0.623	0.262	0.896	0.849	0.856	1.000				
DPPH/(μ mol/g)	0.620	0.262	0.890	0.841	0.854	1.000	1.000			
FRAP/%	0.857	0.047	0.815	0.719	0.652	0.673	0.669	1.000		
FRAP/(μ mol/g)	0.742	0.191	0.993	0.969	0.828	0.876	0.870	0.853	1.000	
pH	-0.477	0.151	-0.714	-0.747	-0.653	-0.902	-0.904	-0.634	-0.756	1.000

Bold values are significant at $p \leq 0.05$. TP=total polyphenols, TF=total flavonoids, TPA=total phenolic acids, OA=oxalic acid, DPPH=2,2-diphenyl-1-picrylhydrazyl, FRAP=ferric ion reducing antioxidant power, φ (lemon juice)=0, 2, 5, 10 and 20 %

[Back to article](#)**Table S3.** Pearson's correlation coefficient between of total polyphenols, oxalic acid and nitrates (determined spectrophotometrically), antioxidant activity, antidiabetic activity and pH in predigested spinach lemon juice formulations

Predigested sample	TP/(mg/g)	TF/(mg/g)	TPA/(mg/g)	OA/(mg/g)	Nitrate/(mg/g)	DPPH/%	DPPH/(μ mol/g)	FRAP/%	FRAP/(μ mol/g)	α -amylase/%	pH
TP/(mg/g)	1.000										
TF/(mg/g)	0.233	1.000									
TPA/(mg/g)	0.616	0.524	1.000								
OA/(mg/g)	0.670	0.377	0.823	1.000							
Nitrate/(mg/g)	0.440	0.729	0.666	0.693	1.000						
DPPH/%	0.584	0.817	0.756	0.806	0.925	1.000					
DPPH/(μ mol/g)	0.685	0.723	0.836	0.788	0.900	0.950	1.000				
FRAP/%	0.890	0.319	0.648	0.835	0.667	0.748	0.766	1.000			
FRAP/(μ mol/g)	0.850	0.279	0.705	0.786	0.705	0.725	0.848	0.905	1.000		
α -amylase/%	0.833	0.076	0.712	0.730	0.529	0.548	0.725	0.834	0.959	1.000	
pH	-0.652	-0.780	-0.747	-0.738	-0.929	-0.970	-0.978	-0.780	-0.811	-0.651	1.000

Bold values are significant at $p \leq 0.05$. TP=total polyphenols, TF=total flavonoids, TPA=total phenolic acids, OA=oxalic acid, DPPH=2,2-diphenyl-1-picrylhydrazyl, FRAP=ferric ion reducing antioxidant power, φ (lemon juice)=0, 2, 5, 10 and 20 %