

ESM 1 Methylxanthine content of tejate samples, mg/100 g dry and fresh weights<sup>[a,b,c]</sup>

Sample/community or group	Caffeine			Theobromine			Total methylxanthines		
	Dry weight		Fresh weight	Dry weight		Fresh weight	Dry weight		Fresh weight
	Average	StD		Average	StD		Average	StD	
<b>San Bartolomé Quialana</b>	<b>4.05bc</b>	<b>1.73</b>	<b>0.76</b>	<b>35.31b</b>	<b>11.31</b>	<b>6.653</b>	<b>39.36b</b>	<b>12.96</b>	<b>7.42</b>
A-04	4.26e	0.36	0.72	39.75e	1.13	6.75	44.01e	1.03	7.47
A-14	4.32e	0.32	0.74	37.23f	0.25	6.52	41.56f	0.57	7.27
A-18	6.08c	0.53	1.08	46.64d	2.39	8.25	52.73d	1.86	9.33
A-23	1.54ih	0.13	0.33	17.63h	0.42	3.74	19.17i	0.54	4.06
<b>Trinidad Zaachila</b>	<b>2.18c</b>	<b>1.00</b>	<b>0.28</b>	<b>16.15c</b>	<b>8.79</b>	<b>2.08</b>	<b>17.78c</b>	<b>10.09</b>	<b>2.29</b>
B-06	2.10gh	0.04	0.25	19.49h	0.39	2.34	21.59h	0.43	2.60
B-23	<sup>[d]</sup>	<sup>[d]</sup>	<sup>[d]</sup>	5.09j	0.23	0.73	5.09k	0.23	0.73
B-26	1.07i	0.09	0.12	12.26i	0.18	1.36	13.33j	0.27	1.48
B-27	3.36f	0.17	0.47	27.75g	0.17	3.89	31.10g	0.08	4.37
<b>Teotitlán del Valle</b>	<b>3.64bc</b>	<b>0.94</b>	<b>0.48</b>	<b>39.94b</b>	<b>15.13</b>	<b>5.25</b>	<b>43.57b</b>	<b>16.06</b>	<b>5.73</b>
C-08	4.48de	0.20	0.47	53.74c	0.47	5.63	58.22c	0.67	6.09
C-21	2.79gf	0.08	0.44	26.13g	0.47	4.14	28.92g	0.39	4.58
<b>Villa Díaz Ordaz</b>	<b>5.12b</b>	<b>0.14</b>	<b>0.73</b>	<b>36.91b</b>	<b>0.50</b>	<b>5.26</b>	<b>42.04b</b>	<b>0.60</b>	<b>5.99</b>
D-01	5.12d	0.14	0.73	36.91f	0.50	5.26	42.04ef	0.60	5.99
<b>Oaxaca tejateras</b>	<b>12.16a</b>	<b>2.09</b>	<b>1.20</b>	<b>92.69a</b>	<b>7.07</b>	<b>9.15</b>	<b>104.84a</b>	<b>9.15</b>	<b>10.35</b>
T-02	10.25b	0.18	1.57	86.24b	0.21	13.22	96.49b	0.34	14.80
T-03	14.06a	0.16	0.72	99.13a	0.34	5.11	113.19a	0.45	5.83
<b>USA tejatera</b>	<b>4.95b</b>	<b>0.22</b>	<b>2.25</b>	<b>48.20b</b>	<b>1.01</b>	<b>21.88</b>	<b>53.15b</b>	<b>1.23</b>	<b>24.13</b>
USA-1	4.95de	0.22	0.45	48.20d	1.01	4.40	53.15d	1.23	4.86

<sup>[a]</sup> Average  $\pm$  standard deviation (StD) of triplicates taken from single samples listed in Table 1.

<sup>[b]</sup> Fresh weight mg/100 g calculated from average dry weight (dw) reported here.

<sup>[c]</sup> In columns, dw averages followed by different letters are significantly different, Tukey's means separation,  $p < 0.05$ . Letters following community or group dw average indicate means separations among those groupings only, not individual averages.

<sup>[d]</sup> Below detectable limits

. No data

ESM 2 Amino acid profile of four tejate samples and comparison to industrially produced maize flour and tortilla (g/100 g protein)<sup>[a]</sup>

Amino acid	B-23	B-26	T-03	USA-1	Maize flour, white, unenriched <sup>[b]</sup>	Maize tortilla <sup>[b]</sup>	FAO/WHO standard for adults >18 years old <sup>[c]</sup>
<b>Essential Amino acids (EAA)</b>							
Cystine	2.33 ± 0.08	2.84 ± 0.01	2.42 ± 0.01	2.57 ± 0.24	2.16	1.84	0.60
Methionine	1.63 ± 0.13	1.51 ± 0.07	1.48 ± 0.13	1.78 ± 0.01	1.97	2.12	1.60
Tyrosine	3.52 ± 0.01	5.10 ± 0.36	4.03 ± 0.18	3.69 ± 0.19	2.71	4.14	3.80 <sup>[d]</sup>
Phenylalanine	5.64 ± 0.04	7.12 ± 0.16	5.62 ± 0.50	5.63 ± 0.06	4.86	5.00	
Threonine	2.94 ± 0.08	3.69 ± 0.12	3.06 ± 0.06	2.94 ± 0.08	2.89	3.82	2.30
Valine	4.13 ± 0.03	5.65 ± 0.27	4.78 ± 0.22	4.39 ± 0.07	4.48	5.16	3.90
Lysine	2.26 ± 0.08	2.55 ± 0.19	2.54 ± 0.04	2.94 ± 0.25	2.59	2.86	4.50
Isoleucine	2.82 ± 0.45	3.88 ± 0.12	3.25 ± 0.19	2.93 ± 0.06	3.25	3.65	3.00
Histidine	2.46 ± 0.14	3.61 ± 0.31	2.73 ± 0.18	2.80 ± 0.12	3.07	3.11	1.50
Leucine	10.80 ± 0.24	11.08 ± 0.07	10.12 ± 0.28	10.01 ± 0.02	12.11	12.47	5.90
Tryptophan <sup>[e]</sup>	0.44 ± 0.02	0.60 ± 0.03	0.72 ± 0.03	0.59 ± 0.01	0.73	0.74	0.60
<b>Total EAA</b>	<b>15.30</b>	<b>19.09</b>	<b>16.44</b>	<b>16.43</b>	<b>16.20</b>	<b>17.05</b>	<b>27.70</b>
<b>Non-essential amino acids (NEAA)</b>							
Aspartic	5.77 ± 0.28	6.71 ± 0.16	7.74 ± 0.012	6.14 ± 0.27	6.45	7.07	.
Serine	4.17 ± 0.18	5.19 ± 0.13	4.84 ± 0.02	4.34 ± 0.09	4.91	4.82	.
Glutamic	17.87 ± 0.50	19.39 ± 0.47	18.64 ± 0.10	15.70 ± 0.21	18.63	19.07	.
Glycine	3.23 ± 0.17	4.12 ± 0.09	3.98 ± 0.07	3.77 ± 0.12	3.70	4.18	.

ESM 2 Amino acid profile of four tejate samples and comparison to industrially produced maize flour and tortilla (g/100 g protein)<sup>[a]</sup>, *cont.*

Amino acid	B-23	B-26	T-03	USA-1	Maize flour, white, unenriched <sup>[b]</sup>	Maize tortilla <sup>[b]</sup>	FAO/WHO standard for adults >18 years old <sup>[c]</sup>
<i>Non-essential amino acids (NEAA), cont.</i>							
Arginine	4.90 ± 0.04	4.13 ± 0.24	6.51 ± 0.25	5.25 ± 0.25	4.43	5.07	.
Alanine	5.16 ± 0.01	5.86 ± 0.08	5.02 ± 0.06	4.75 ± 0.20	7.50	7.61	.
Proline	7.39 ± 0.19	8.75 ± 0.09	7.47 ± 0.14	7.52 ± 0.06	7.98	8.88	.
Total NEAA	48.49	54.15	54.2	47.47	53.6	56.70	.

<sup>[a]</sup> Average ± standard deviation n=3.

<sup>[b]</sup> [1]

<sup>[c]</sup> [2:150]

<sup>[d]</sup> Tyrosine + Phenylalanin, as per [2]

<sup>[e]</sup> Alkaline hydrolysis [3]

ESM 3 Amino acid scores of four tejate samples, and comparison to industrially produced maize flour and tortilla (g/100 g protein)<sup>[a]</sup>

Amino acid	B-23	B-26	T-03	USA-1	Maize flour, white, unenriched <sup>[b]</sup>	Maize tortilla, USDA <sup>[b]</sup>	Score values of FAO/WHO standard for adults >18 years old
SAA <sup>[c]</sup>	1.80	2.58	1.77	1.98	1.88	1.80	2.2
AAA <sup>[d]</sup>	2.41	0.85	2.54	2.45	1.99	2.41	3.8
Threonine	1.28	1.60	1.33	1.28	1.26	1.66	2.3
Valine	1.06	1.45	1.23	1.13	1.15	1.32	3.9
Lysine	0.50	0.57	0.56	0.65	0.58	0.64	4.5
Isoleucine	0.94	1.29	1.08	0.98	1.08	1.22	3
Histidine	1.64	2.41	1.82	1.87	2.05	2.07	1.5
Leucine	1.83	1.88	1.72	1.70	2.05	2.11	5.9
Tryptophan	0.73	1.00	1.20	0.98	1.22	1.23	0.6
Amino acid score <sup>[e]</sup>	0.44	0.49	0.48	0.47	0.48	0.52	1.0

<sup>[a]</sup> Calculated using FAO/WHO Standard for active adults over 18 yrs old [2:150]

<sup>[b]</sup> [1]

<sup>[c]</sup> SAA: Sulfur amino acids (methionine and cystine)

<sup>[d]</sup> AAA: Aromatic amino acids (phenylalanine and tyrosine)

<sup>[e]</sup> Amino acid score = (mg amino acid/g test protein)/(mg of amino acid/g protein in requirement pattern) [2:95]

## ESM References cited

1. USDA (2010) USDA National Nutrient Database for Standard Reference. Release 23. USDA. [http://www.nal.usda.gov/fnic/foodcomp/cgi-bin/list\\_nut\\_edit.pl](http://www.nal.usda.gov/fnic/foodcomp/cgi-bin/list_nut_edit.pl). Accessed 15 February 2011
2. FAO/WHO/ONU (2002) Protein and amino acid requirements in human nutrition: report of a joint FAO/WHO/ONU expert consultation, vol 935. WHO technical report series. World Health Organization, Geneva
3. Yust M, Pedroche J, Girón-Calle J, Vioque J, Millán F, Alais M (2004) Determination of tryptophan by high performance liquid chromatography of alkaline hydrolysates with spectrophotometric detection. Food Chem 85:317-320