Table 1. Mean Squares for Capsaicin (CAP), Dihydrocapsaicin (DCH) and Total Capsaicinoid Contents of Six Families of an Intraspecific Cross of *C. annuum* L. across Two Environments

source of variation	df [a]	CAP	DHC	total capsaicinoids [b]
Families (F)	5	20865***	11837 ***	63955***
Environment (E)	1	11928**	6156*	35229 **
F x E	5	6884***	5462 ***	23856 ***
Error	203	1361	1028	4442

[a] df, degrees of freedom.

[b] Total capsaicinoids considered as the sum of the capsaicin and dihydrocapsaicin contents.

*, **, *** Significant at $p < 0.05$, 0.01, or 0.001, respectively.

Table 2. Joint Scaling Test and Estimates (± SE) Obtained using a Three-parameter Model and Individual Scaling Test A, B, and C Models using the Means of Six Families for Capsaicin (CAP), Dihydrocapsaicin (DHC), and Total Capsaicinoids of an Intraspecific Cross of *C. annuum* L. across Two Environments

	CAP	DHC	total capsaicinoids [a]
Spring			
three parameter model			
m [b]	4.8* ± 1.8	5.1** ± 2.0	10.0* ± 3.8
[d] [c]	4.8* ± 1.8	5.1** ± 2.0	10.0* ± 3.8
[h] [d]	38.6** ± 6.3	31.0** ± 5.7	68.2** ± 11.5
χ^2	4.8	6.1	5.4
p	0.19	0.11	0.15
scaling tests			
A	-4.2 ± 13.5	-1.13 ± 15.9	-1.0 ± 23.9
B	8.2 ± 30.3	12.8 ± 15.5	16.8 ± 52.9
C	70.3* ± 34.9	79.1* ± 33.5	149.9* ± 66.7
Summer			
three parameter model			
m	4.9** ± 1.1	5.4** ± 1.2	10.3** ± 2.3
[d]	4.9** ± 1.1	5.4** ± 1.2	10.3** ± 2.3
[h]	82.0** ± 6.7	66.6** ± 6.5	152.0** ± 13.1
χ^2	19.4	6.14	9.9
p	0.0002	0.10	0.02
scaling tests			
A	-10.7 ± 29.1	-21.6 ± 25.0	-32.3 ± 52.6
B	-68.2** ± 15.6	-34.0 ± 17.6	-102.2** ± 32.9
C	-33.9 ± 36.9	-61.2* ± 29.9	-95.1 ± 64.9

[a] Total capsaicinoids considered as the sum of the capsaicin and dihydrocapsaicin contents.

[b] m, midparent; [c] [d], additive; [d] [h], dominance.

*, ** Significantly different from zero at $p < 0.05$ or 0.01, respectively, based on normal deviates table.

Table 3. Joint Scaling Test and Estimates (± SE) with Six-parameter Model using the Means of Six Families for Capsaicin (CAP), Dihydrocapsaicin (DHC), and Total Capsaicinoids of an Intraspecific Cross of *C. annuum* L. across Two Environments

	CAP	DHC	total capsaicinoids [a]
Spring			
m [b]	80.4* ± 37.9	72.1 ± 36.8	156.5* ± 71.4
[d] [c]	4.8* ± 1.9	4.6* ± 2.0	9.5* ± 3.9
[h] [d]	-121.1 ± 89.3	-96.9 ± 86.5	-230.0 ± 165.2
[i] [e]	-75.6* ± 37.7	-67.5* ± 36.7	-146.9* ± 70.9
[j] [f]	–	–	–
[l] [g]	80.7 ± 54.3	55.4 ± 52.2	144.1 ± 98.8
χ^2	0.15	0.46	0.10
p	0.70	0.50	0.75
Summer			
m	4.8** ± 1.1	5.5** ± 1.2	10.4** ± 2.3
[d]	4.8** ± 1.1	5.5** ± 1.2	10.4** ± 2.3
[h]	46.8 ± 24.0	23.1 ± 20.5	72.5 ± 43.5
[i]	–	–	–
[j]	71.5** ± 27.0	11.1 ± 26.6	80.7 ± 52.4
[l]	57.6* ± 28.9	58.8* ± 25.5	113.9* ± 53.2
χ^2	1.05	0.02	0.26
p	0.31	0.88	0.61

[a] Total capsaicinoids considered as the sum of the capsaicin and dihydrocapsaicin contents.

[b] m, midparent; [c] [d], additive; [d] [h], dominance; [e] [i], additive x additive; [f] [j], additive x dominance; [g] [l], dominance x dominance.

*, ** Significantly different from zero at $p < 0.05$ or 0.01, respectively, based on normal deviates table.

Table 4. Correlation Coefficients between Capsaicin (CAP), Dihydrocapsaicin (DHC), and Total Capsaicinoid Contents for Pepper Fruits Grown in Spring and Summer from Six Families of an Intraspecific Cross of *C. annuum* L.

	CAP	DHC	total capsaicinoids [a]
Spring			
CAP	1		
DHC	0.859**	1	
total capsaicinoids	0.967**	0.960**	1
Summer			
CAP	1		
DHC	0.982**	1	
total capsaicinoids	0.996**	0.994**	1
Combined seasons			
CAP	1		
DHC	0.892**	1	
total capsaicinoids	0.977**	0.967**	1

[a] Total capsaicinoid considered as the sum of the capsaicin and dihydrocapsaicin contents.

*, **, *** Significant at $p < 0.05$, 0.01 or 0.001, respectively.