**Table S1.** Least square means for O2, CO2, sample juice loss and electrolyte leakage of fresh-cut pepper slices from sweet bell, large elongated, jalapeno and serrano pepper accessions stored under passive modified atmosphere packaging conditions for 7, 10 and 14 days.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Accession | O2  (%) | | |  | CO2  (%) | | |  | Juice loss  (g) | | |  | Tissue electrolyte leakage  (%) | | | | |
|  | | |  |  | | |  |  | | |  |  | | | | |
| Day | | |  | Day | | |  | Day | | |  | Day | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 7a | 10 | 14 |  | 7 | 10 | 14 |  | 7 | 10 | 14 |  | 0 | 7 | 10 | 14 | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Sweet bell* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Special | 10.09a | 1.89b | 0.03b |  | 5.13c | 9.27b | 13.93a |  | 0.43b | 0.47b | 4.13a |  | 6.15c | 6.30c | 17.57b | 41.43a |
| Healey | 11.47a | 4.25b | 0.10b |  | 4.00c | 7.47b | 11.22a |  | 0.37b | 0.43b | 3.57a |  | 7.07b | 5.66c | 9.42b | 36.59a |
| Scirocco | 11.07a | 5.63b | 0.16c |  | 4.30c | 6.40b | 10.10a |  | 0.33a | 0.30a | 1.20a |  | 6.68c | 4.05d | 9.89b | 25.25a |
| Ferrari | 11.03a | 5.49b | 0.30c |  | 4.33c | 6.53b | 10.20a |  | 0.27a | 0.33a | 2.90a |  | 6.58bc | 4.80c | 9.69b | 37.76a |
| Tinsena | 11.73a | 6.76b | 0.01c |  | 4.53c | 7.40b | 12.10a |  | 0.37c | 0.53b | 6.97a |  | 7.96c | 11.82c | 21.05b | 45.27a |
| Lestat | 9.62a | 7.27b | 0.12c |  | 4.83c | 5.67b | 12.27a |  | 0.27a | 0.27a | 0.77a |  | 6.94b | 3.81d | 5.03c | 22.69a |
| Inzell | 11.20a | 5.92b | 0.11c |  | 4.27c | 6.57b | 9.97a |  | 0.37a | 0.30a | 0.50a |  | 5.50b | 3.57b | 5.79ab | 13.18a |
| Maranello | 12.77a | 9.96b | 0.17c |  | 3.70c | 4.93b | 11.43a |  | 0.37a | 0.40a | 1.13a |  | 7.47b | 5.65b | 7.13b | 27.28a |
| Spider | 10.89a | 7.63b | 0.15c |  | 4.20c | 5.37b | 11.17a |  | 0.27a | 0.23a | 0.37a |  | 6.55b | 3.79c | 5.26b | 16.11a |
| Imperio | 13.10a | 9.74b | 2.44c |  | 3.53c | 4.83b | 9.00a |  | 0.30b | 0.30b | 0.60a |  | 7.62b | 4.85c | 6.45bc | 20.50a |
| E20B.4555 | 11.00a | 7.48b | 0.11c |  | 4.33b | 5.47b | 9.00a |  | - | - | - |  | 6.16b | 4.15b | 5.37b | 21.24a |
| E44.18597 | 9.44a | 8.46ab | 4.35b |  | 4.43b | 4.87b | 8.00a |  | 0.30b | 0.23b | 0.62a |  | 5.98b | 4.31c | 6.05b | 16.83a |
| E20B.24966 | 13.57a | 11.67ab | 6.94b |  | 3.13b | 3.63b | 5.57a |  | 0.37a | 0.67a | 0.30a |  | 6.15a | 4.26b | 4.31b | 7.70ab |
| E20B.4128 | 12.73a | 6.26b | 0.37c |  | 3.53c | 5.67b | 9.40a |  | 0.33b | 0.27b | 0.73a |  | 7.40b | 4.14c | 8.59bc | 18.92a |
| E20B.4436 | 10.97a | 8.13a | 1.77b |  | 4.40c | 5.47b | 8.77a |  | 0.27b | 0.33b | 0.57a |  | 5.99b | 3.94c | 5.84bc | 15.59a |
| E20L.1012857 | 6.25a | 5.58a | 4.04a |  | 6.43a | 6.20a | 6.77a |  | 0.23b | 0.23b | 0.57a |  | 6.61a | 4.71b | 5.22ab | 5.69ab |
| PI 592834 | 5.95a | 1.28ab | 0.04b |  | 6.03c | 8.77b | 13.13a |  | 0.22b | 0.23b | 0.43a |  | 8.01b | 4.04c | 9.57a | 14.05ab |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Large elongated* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rubiero | 5.03a | 0.34b | 0.03b |  | 7.63b | 9.20b | 14.60a |  | 0.43a | 0.42a | 0.90a |  | 8.16b | 6.36c | 8.62b | 24.27a |
| Laerte | 7.85a | 0.16b | 0.63b |  | 5.87c | 9.50b | 13.07a |  | 0.42b | 1.80b | 9.73a |  | 7.52d | 17.94c | 32.69b | 52.97a |
| Rubinne | 10.60a | 4.60b | 0.06c |  | 4.83c | 7.53b | 11.87a |  | 0.37b | 0.33b | 0.77a |  | 8.96ab | 6.58b | 8.24b | 27.23a |
| E49.10719 | 7.30a | 5.61a | 2.19a |  | 6.37a | 6.27a | 7.83a |  | 0.70a | 0.27a | 0.37a |  | 7.63a | 4.66b | 3.98c | 7.64a |
| Holy Mole | 0.10a | 0.09a | 0.09a |  | 12.17a | 13.87a | 10.60a |  | 0.37a | 0.33a | 0.37a |  | 6.80a | 4.36b | 5.32ab | 6.94a |
| Pizza | 6.12a | 2.21b | 0.60b |  | 7.53b | 8.27ab | 9.57a |  | 0.53a | 0.27b | 0.53a |  | 9.65a | 5.09b | 4.78b | 10.84a |
| Planet | 6.85a | 1.29b | 1.43b |  | 6.33b | 8.35a | 7.83a |  | 0.27a | 0.17a | 0.27a |  | 6.79a | 3.33c | 4.34b | 7.74a |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Jalapeno* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mitla | 1.21a | 1.83a | 3.78a |  | 8.27a | 7.70a | 6.30b |  | 0.17a | 0.67a | 0.27a |  | 11.98a | 6.23b | 5.50bc | 3.77c |
| El Rey | 5.33a | 0.85b | 0.13b |  | 5.87b | 9.57ab | 11.13a |  | 0.50a | 0.23b | 0.52a |  | 10.79ab | 7.85ab | 8.54b | 11.75a |
| Tula | 1.59a | 3.03a | 0.57a |  | 10.23b | 10.00ab | 11.70a |  | 0.53a | 0.27b | 0.57a |  | 7.95b | 7.10ab | 6.33b | 10.99a |
| Mucho Nacho | 1.16a | 0.26a | 0.07a |  | 12.83a | 8.00b | 11.33b |  | 0.40ab | 0.20b | 0.53a |  | 11.28a | 10.14a | 8.58a | 10.25a |
| Ixtapa X3R | 1.05a | 0.28a | 0.70a |  | 10.53a | 9.95a | 9.43a |  | 0.13a | 0.23a | 0.13a |  | 17.00a | 12.49b | 11.29bc | 9.14c |
| Jaloro | 1.03a | 0.12a | 0.11a |  | 10.37a | 10.80a | 11.83a |  | 0.33a | 0.33a | 0.42a |  | 10.68b | 6.79c | 8.43c | 14.19a |
| Jalapeno | 0.46a | 0.86a | 0.41a |  | 13.23a | 9.43a | 11.30a |  | 0.37a | 0.27a | 0.37a |  | 11.28c | 14.55b | 11.19bc | 18.31a |
| Triunfo | 4.07a | 0.79a | 0.44a |  | 9.00a | 9.37a | 11.47a |  | 0.22a | 0.20a | 0.43a |  | 12.89a | 6.02b | 6.80b | 11.16a |
| Jalapeno M | 2.60a | 0.23a | 0.13a |  | 8.33b | 12.93a | 10.80b |  | 0.32a | 0.30a | 0.42a |  | 10.68b | 8.23c | 11.58ab | 14.20a |
| Telica | 0.16a | 0.15a | 0.33a |  | 12.23a | 12.33a | 10.67a |  | 0.27a | 0.27a | 0.30a |  | 10.72a | 6.90c | 8.81b | 8.40abc |
| Senorita | 0.55a | 0.13a | 0.05a |  | 9.27b | 14.43a | 14.13a |  | 0.13b | 0.27ab | 0.43a |  | 7.21b | 5.76b | 7.16b | 12.44a |
| Jalapeno Goliath | 2.26a | 0.45a | 0.04a |  | 8.77b | 11.00ab | 10.97a |  | 0.27a | 0.32a | 0.32a |  | 8.39a | 5.60b | 4.63b | 6.15ab |
| Felicity | 0.46a | 0.18a | 0.21a |  | 10.80b | 13.77a | 12.33ab |  | 0.22a | 0.33a | 0.30a |  | 9.96a | 6.37bc | 5.79c | 9.14ab |
| Fooled You | 0.22a | 0.29a | 0.17a |  | 13.90a | 11.17ab | 10.90b |  | 0.20a | 0.20a | 0.27a |  | 9.16a | 6.90b | 6.66b | 6.92b |
| Early Jalapeno | 0.32a | 0.17a | 0.10a |  | 11.10a | 10.60a | 11.70a |  | 0.40a | 0.17b | 0.37a |  | 11.05a | 7.14b | 7.35b | 10.12a |
| PI 640584 | 0.43a | 0.31a | 0.08b |  | 10.87ab | 9.67b | 12.60a |  | 0.42a | 0.23b | 0.67ab |  | 10.06a | 8.25a | 8.98a | 13.44a |
| PI 640703 | 0.36a | 0.07b | 0.06b |  | 17.27a | 13.60b | 14.17b |  | 0.23b | 0.40ab | 0.42a |  | 14.99a | 13.14b | 11.88b | 12.53b |
| PI 653653 | 0.93a | 0.16a | 0.10a |  | 11.87b | 15.60a | 15.70a |  | 0.30b | 0.47ab | 0.53a |  | 9.02a | 4.55b | 8.39a | 9.89a |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Serrano* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Comisario | 0.82a | 0.31b | 0.02b |  | 8.33c | 14.87b | 20.90a |  | 0.33b | 0.50ab | 0.60a |  | 16.88b | 13.71c | 14.01c | 22.82a |
| caps1860 | 0.45a | 0.41a | 0.40a |  | 12.40a | 12.90a | 11.47a |  | 0.33a | 0.35a | 0.43a |  | 6.10bc | 5.49c | 6.96b | 8.25a |
| caps4919 | 0.03a | 0.31a | 0.02a |  | 16.27a | 11.57ab | 12.13b |  | 0.53a | 0.30a | 0.17a |  | 8.55a | 6.04b | 5.54b | 6.56ab |
| caps4711 | 0.63a | 0.49ab | 0.20b |  | 11.37a | 10.53a | 13.47a |  | 0.20ab | 0.22b | 0.33a |  | 14.64a | 9.71c | 10.17c | 11.28b |
| Devil Serrano | 0.36a | 0.17a | 0.14a |  | 8.13a | 12.47a | 12.20a |  | 0.30b | 0.40ab | 0.57a |  | 15.85a | 9.41b | 10.88b | 14.38a |
| Serrano Chili | 0.28a | 0.21a | 0.26a |  | 12.97a | 12.37a | 12.57a |  | 0.17a | 0.17a | 0.33a |  | - | 17.30a | 14.55a | 13.94a |
| Serrano Del Sol | 0.14a | 0.12a | 0.12a |  | 12.23a | 12.27a | 10.85a |  | 0.37a | 0.32a | 0.33a |  | 20.15a | 14.54b | 14.73b | 14.24b |
| Serrano Tampiqueno | 0.30a | 0.26a | 0.26a |  | 11.70b | 15.00a | 13.50ab |  | -0.03b | 0.53a | 0.80a |  | 23.95a | 15.54b | 22.34a | 21.75a |

a Letters denote means comparisons between days of storage for percentage O2 and CO2, sample juice loss and electrolyte leakage. Comparisons were evaluated using Sidak adjusted *P*-values so that the experiment-wise error was 0.05.

**Table S2.** Least square means for firmness, off-odor, overall visual quality and tissue breakdown of fresh-cut pepper slices from sweet bell, large elongated, jalapeno and serrano pepper accessions stored under passive modified atmosphere packaging conditions for 14 days.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Accession | Overall  visual  quality a | | Tissue breakdown | | Firmness | | Off-odor |
| *Sweet bell* |  | |  | |  | |  |
| Special | 4.67 ab | | 3.33 ab | | 4.22 abc | | 3.67 a |
| Healey | 4.33 ab | | 3.11 ab | | 4.22 ab | | 3.11 abc |
| Scirocco | 4.00 ab | | 2.78 ab | | 3.33 bcd | | 2.56 abce |
| Ferrari | 4.67 a | | 3.78 a | | 4.00 abc | | 2.00 abcef |
| Tinsena | 4.78 ab | | 3.78 ab | | 4.89 a | | 3.44 ab |
| Lestat | 3.78 ab | | 3.11 ab | | 3.44 bcd | | 2.44 abce |
| Inzell | 3.33 b | | 1.56 bc | | 3.00 bcd | | 1.22 ef |
| Maranello | 3.89 ab | | 2.56 ab | | 3.22 cd | | 1.44 cef |
| Spider | 3.44 ab | | 2.00 bc | | 3.44 bcd | | 2.00 bce |
| Imperio | 3.56 ab | | 1.89 bc | | 3.44 bcd | | 1.56 bcdefg |
| E20B.4555 | 4.22 ab | | 3.00 ab | | 2.72 cd | | 1.44 cef |
| E44.18597 | 4.33 ab | | 2.56 b | | 3.56 bc | | 1.33 ef |
| E20B.24966 | 3.67 ab | | 1.67 bc | | 2.67 d | | 0.67 fg |
| E20B.4128 | 4.67 ab | | 3.44 ab | | 3.22 bcd | | 3.00 ad |
| E20B.4436 | 4.11 ab | | 2.67 b | | 3.00 bcd | | 3.00 ad |
| E20L.1012857 | 3.33 ab | | 0.67 c | | 3.22 bcd | | 0.11 g |
| PI 592834 | 3.22 ab | | 1.89 bc | | 3.44 bcd | | 2.44 abce |
| F-value | 3.59 | | 20.42 | | 20.26 | | 109.79 |
| *P* | 0.0044 | | <0.0001 | | <0.0001 | | <0.0001 |
| *Large elongated* |  | |  | |  | |  |
| Rubiero | 3.67abc | | 1.89bc | | 3.33 b | | 2.67ab |
| Laerte | 4.89a | | 4.00a | | 4.97 a | | 3.97a |
| Rubinne | 4.22ab | | 2.67ab | | 3.89 ab | | 3.33 ab |
| E49.10719 | 3.33bc | | 1.22bcd | | 3.11 ab | | 0.56 bc |
| Holy Mole | 1.89c | | 0.22d | | 2.89 b | | 0.78 bc |
| Pizza | 3.56abc | | 1.89abcd | | 3.22 ab | | 2.22 b |
| Planet | 2.44abc | | 0.44cd | | 2.78 b | | 0.11 c |
| F-value | 14.35 | | 20.44 | | 13.91 | | 203.86 |
| *P* | 0.0007 | | 0.0001 | | 0.0003 | | <0.0001 |
| *Jalapeno* |  |  | |  | |  | |
| Mitla | 3.33 a | 0.56 a | | 1.89 a | | 0.03 e | |
| El Rey | 3.22 a | 0.44 a | | 2.56 a | | 1.44 abcd | |
| Tula | 3.56 a | 0.56 a | | 2.44 a | | 3.00 a | |
| Mucho Nacho | 3.33 a | 0.44 a | | 2.33 a | | 1.56 abcd | |
| Ixtapa X3R | 3.89 a | 0.22 a | | 2.11 a | | 0.22 cde | |
| Jaloro | 2.78 a | 1.22 a | | 3.11 a | | 2.89 a | |
| Jalapeno | 4.11 a | 2.56 a | | 2.78 a | | 0.67 bcde | |
| Triunfo | 3.67 a | 0.89 a | | 2.22 a | | 0.78 bcde | |
| Jalapeno M | 3.11 a | 1.22 a | | 2.33 a | | 1.89 ab | |
| Telica | 4.11 a | 0.33 a | | 2.33 a | | 0.11 de | |
| Senorita | 4.11 a | 2.44 a | | 2.67 a | | 1.44 abcd | |
| Jalapeno Goliath | 3.44 a | 1.33 a | | 2.78 a | | 1.00 bcd | |
| Felicity | 3.67 a | 1.67 a | | 2.44 a | | 1.22 bc | |
| Fooled You | 4.33 a | 0.56 a | | 2.33 a | | 0.56 bcde | |
| Early Jalapeno | 3.11 a | 0.56 a | | 2.00 a | | 1.22 abcde | |
| PI 640584 | 3.33 a | 1.67 a | | 2.11 a | | 1.33 bc | |
| PI 640703 | 3.44 a | 1.22 a | | 2.89 a | | 0.89 bcd | |
| PI 653653 | 3.89 a | 1.33 a | | 2.44 a | | 0.44 bcde | |
| F-value | 0.51 | 1.83 | | 0.99 | | 28.18 | |
| *P* | 0.9321 | 0.0872 | | 0.4958 | | <0.0001 | |
| *Serrano* |  |  | |  | |  | |
| Comisario | 3.67 a | 2.11 a | | 2.33 a | | 2.78 a | |
| caps 2932 | 2.22 a | 0.22 a | | 3.22 a | | 0.78 c | |
| caps 4919 | 4.00 a | 0.33 a | | 3.11 a | | 1.78 abc | |
| caps 4711 | 2.11 a | 0.78 a | | 2.00 a | | 1.03 c | |
| Devil Serrano | 2.67 a | 1.33 a | | 1.89 a | | 1.00 bc | |
| Serrano Chili | 3.33 a | 0.44 a | | 2.22 a | | 2.11 ab | |
| Serrano Del Sol | 3.22 a | 1.33 a | | 2.11 a | | 1.11 bc | |
| Serrano Tampiqueno | 3.00 a | 1.22 a | | 2.22 a | | 1.78 abc | |
| F-value | 1.41 | 1.39 | | 2.61 | | 13.70 | |
| *P* | 0.2683 | 0.3006 | | 0.0587 | | <0.0001 | |

a Letters denote means comparisons within sensory quality attributes for respective fruit classes. Comparisons were evaluated using Sidak adjusted *P*-values so that the experiment-wise error was 0.05.