

The Economic impact of imported strawberries from Mexico

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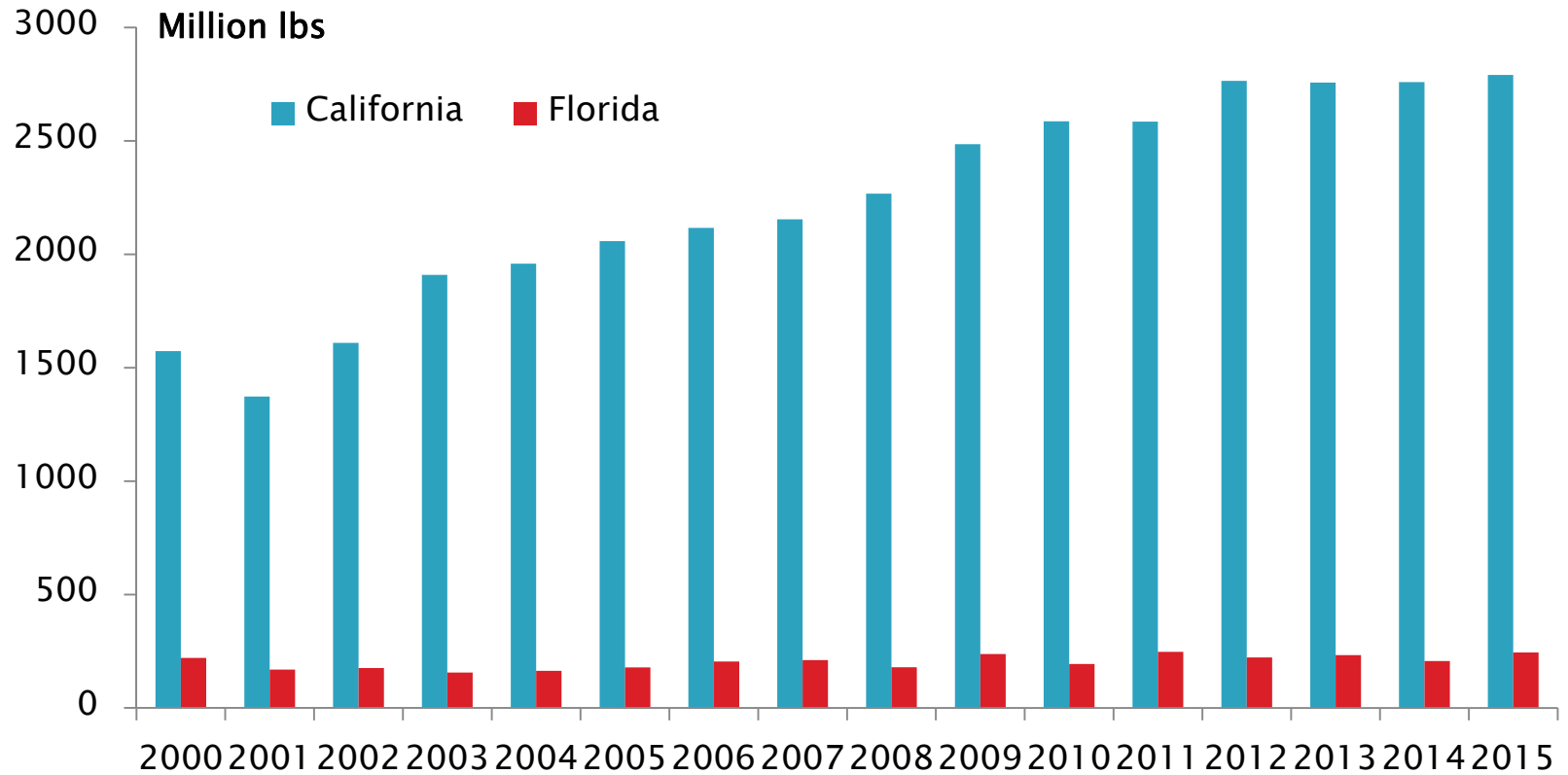


Outline

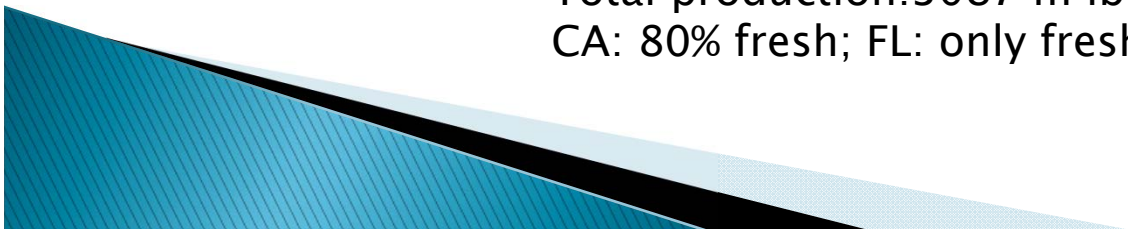
- Updates on Production and Trade (USDA-NASS and DOC)
- Impact of imports from Mexico
- Solutions
- Summary



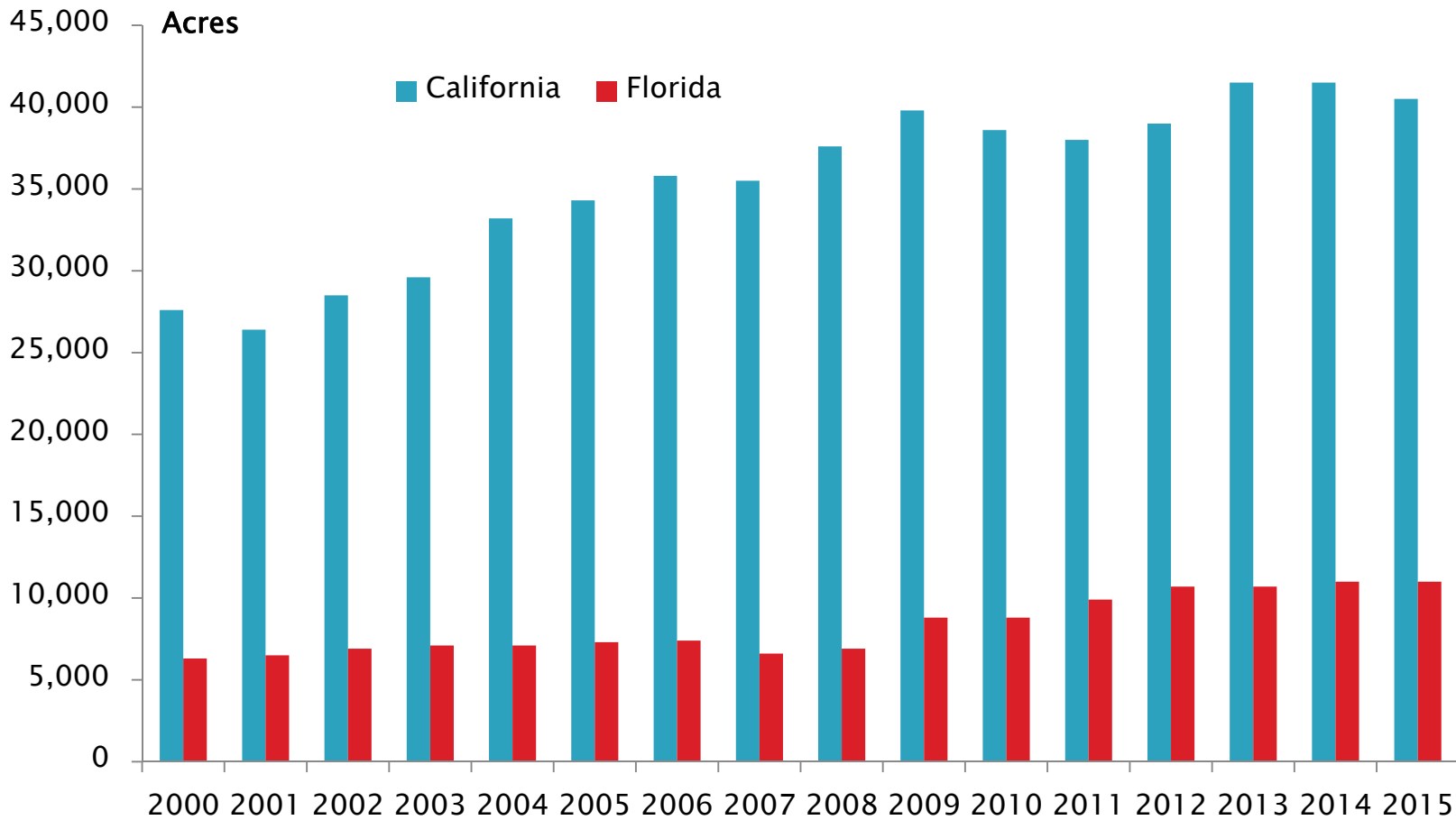
U.S. Strawberry Production



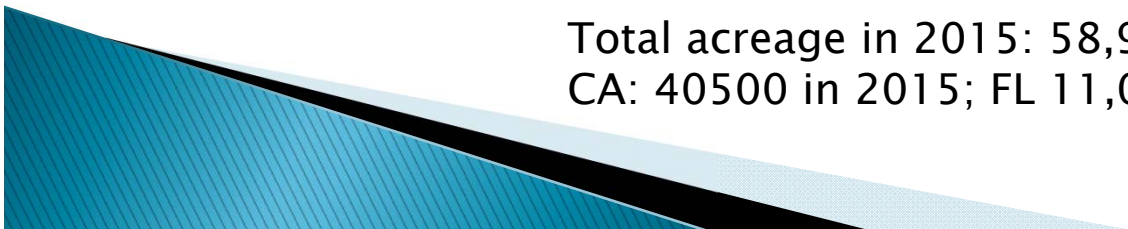
Total production: 3087 m lbs in 2015
CA: 80% fresh; FL: only fresh



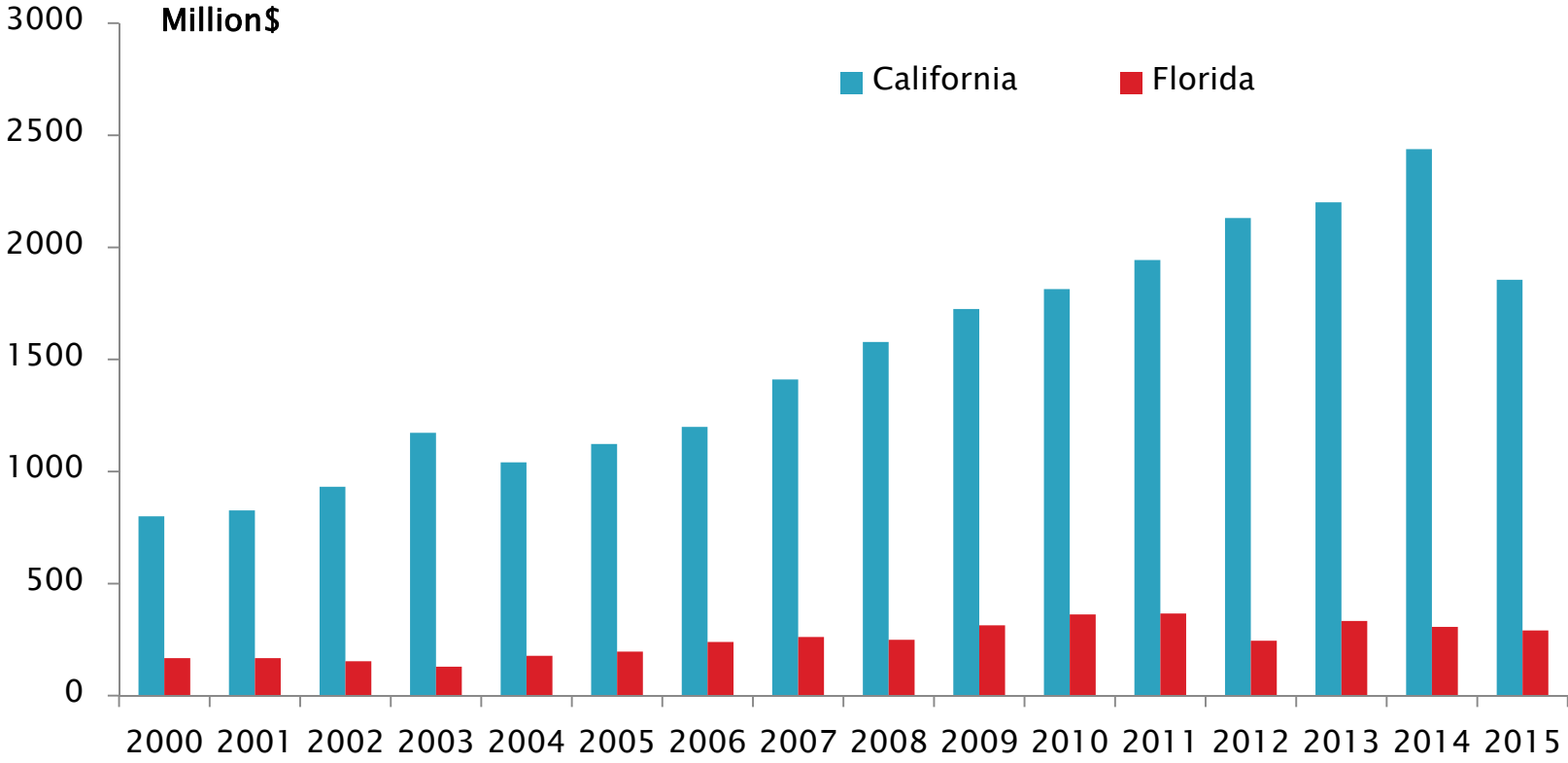
U.S. Strawberry Acreage



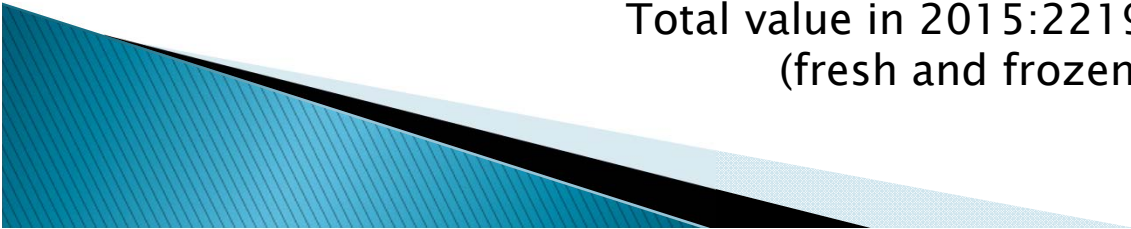
Total acreage in 2015: 58,950 acres
CA: 40500 in 2015; FL 11,000



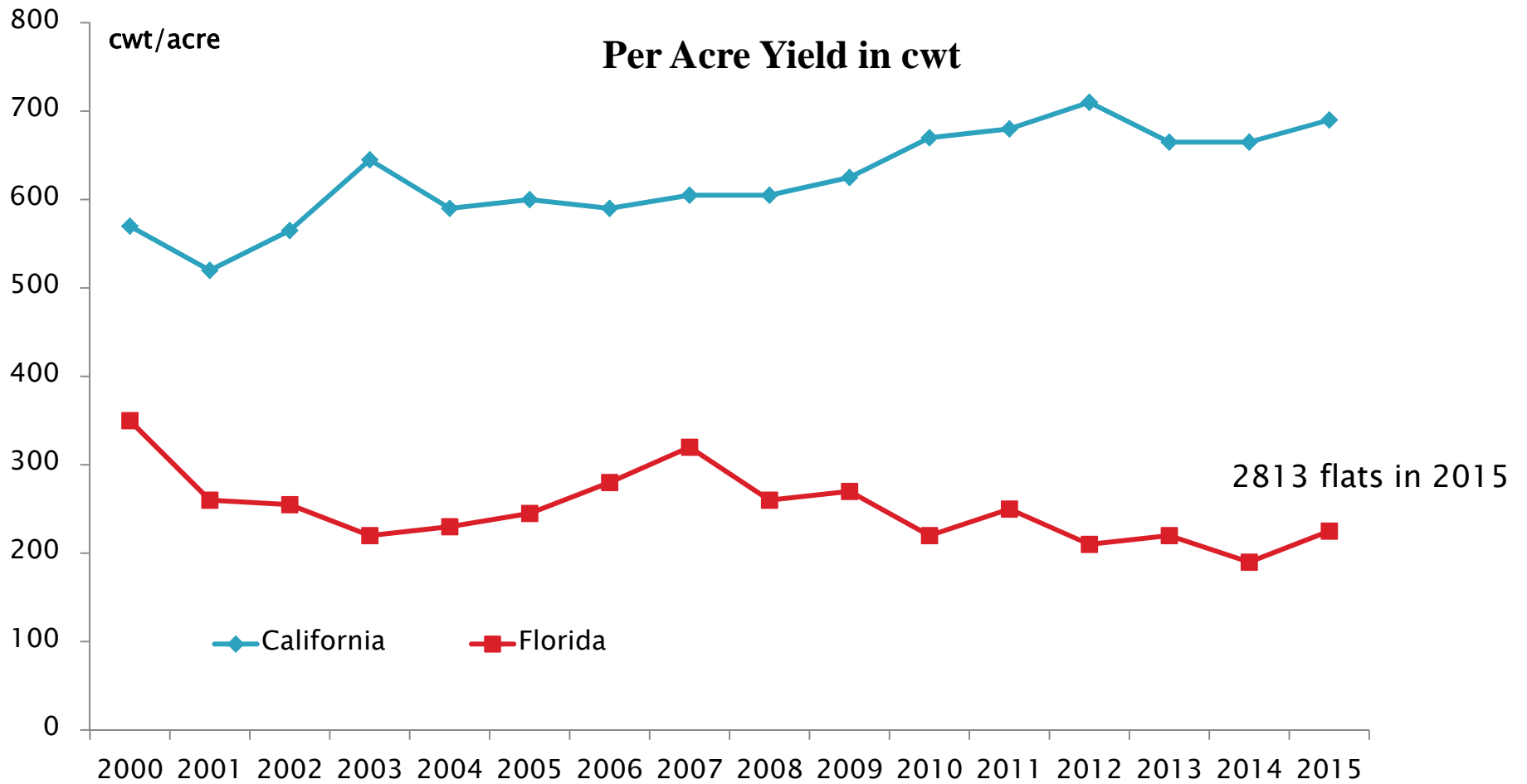
U.S. Strawberry Value



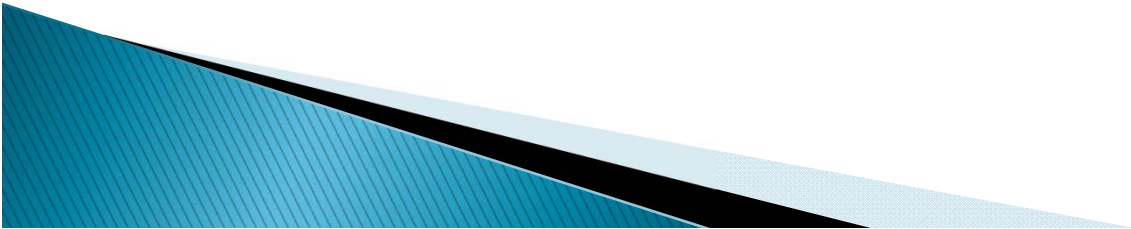
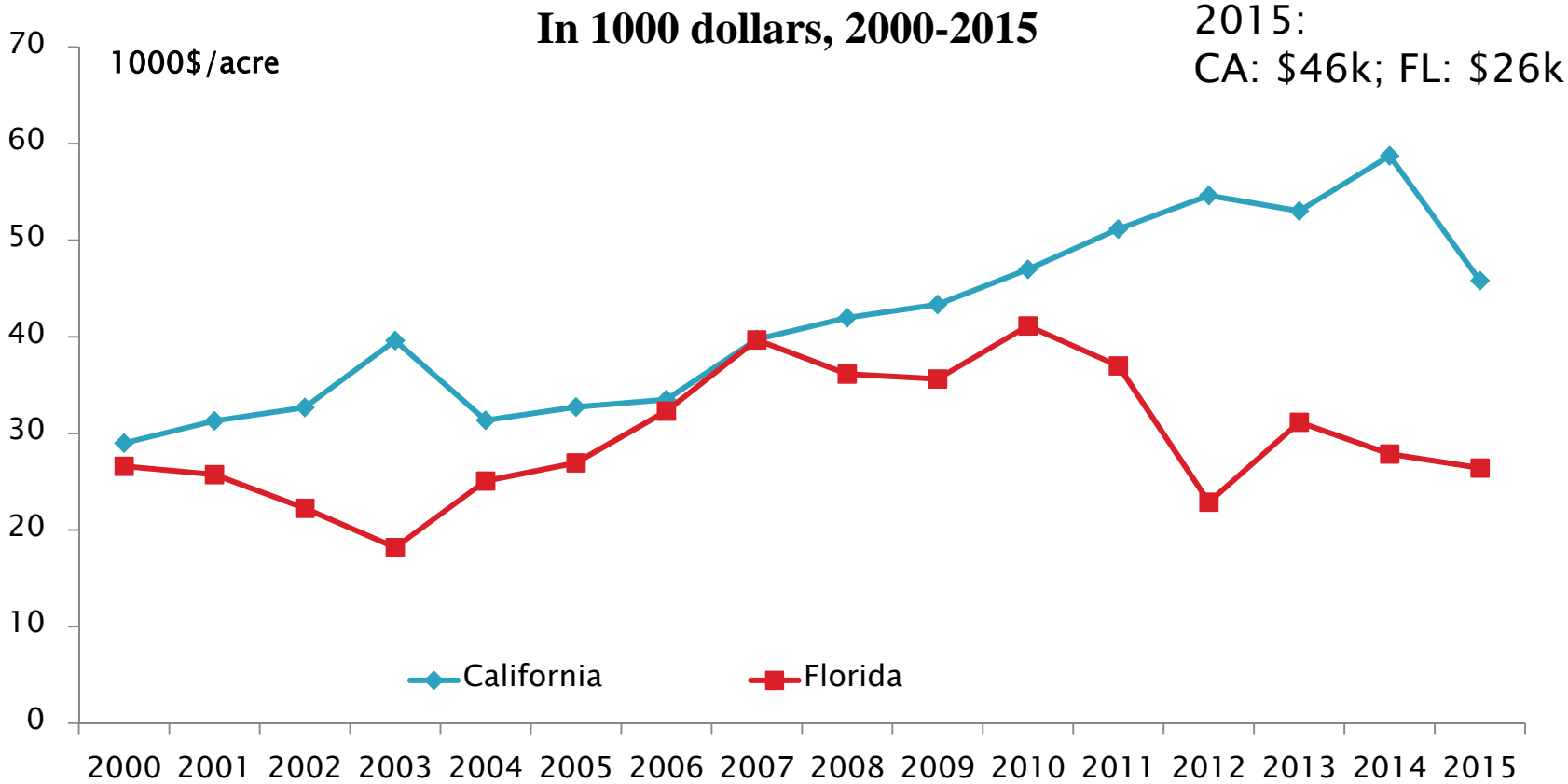
Total value in 2015: 2219 million
(fresh and frozen)



Per Acre Yield 2000-2015



Revenue Per Acre

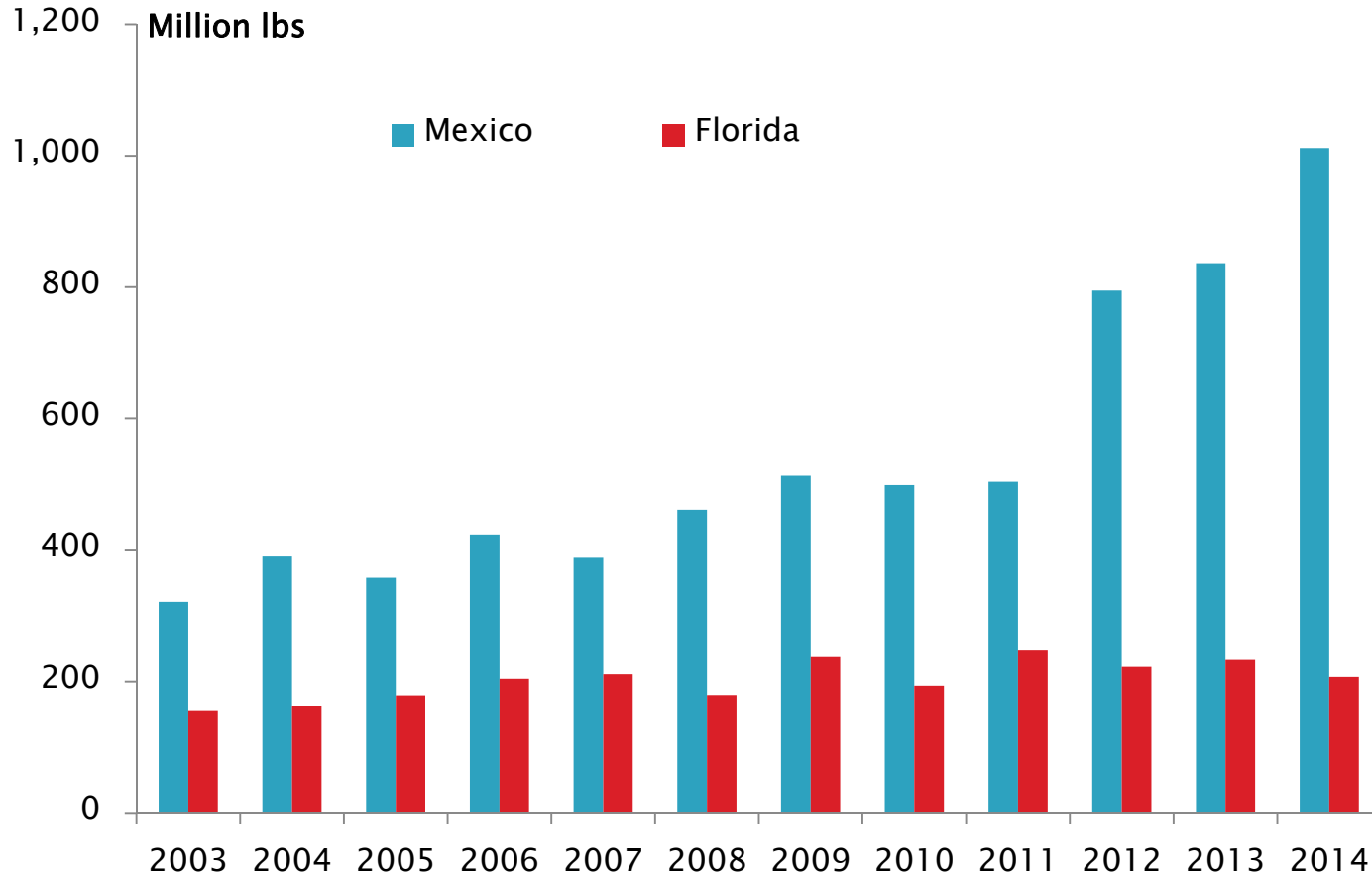


Mexican Strawberry Industry

- ▶ Produced 500 million lbs in 2011 (2.5X FL);
- ▶ 1000m lbs in 2014 (5X FL)
- ▶ Industry to DOUBLE its capacity in 5 years (2019)



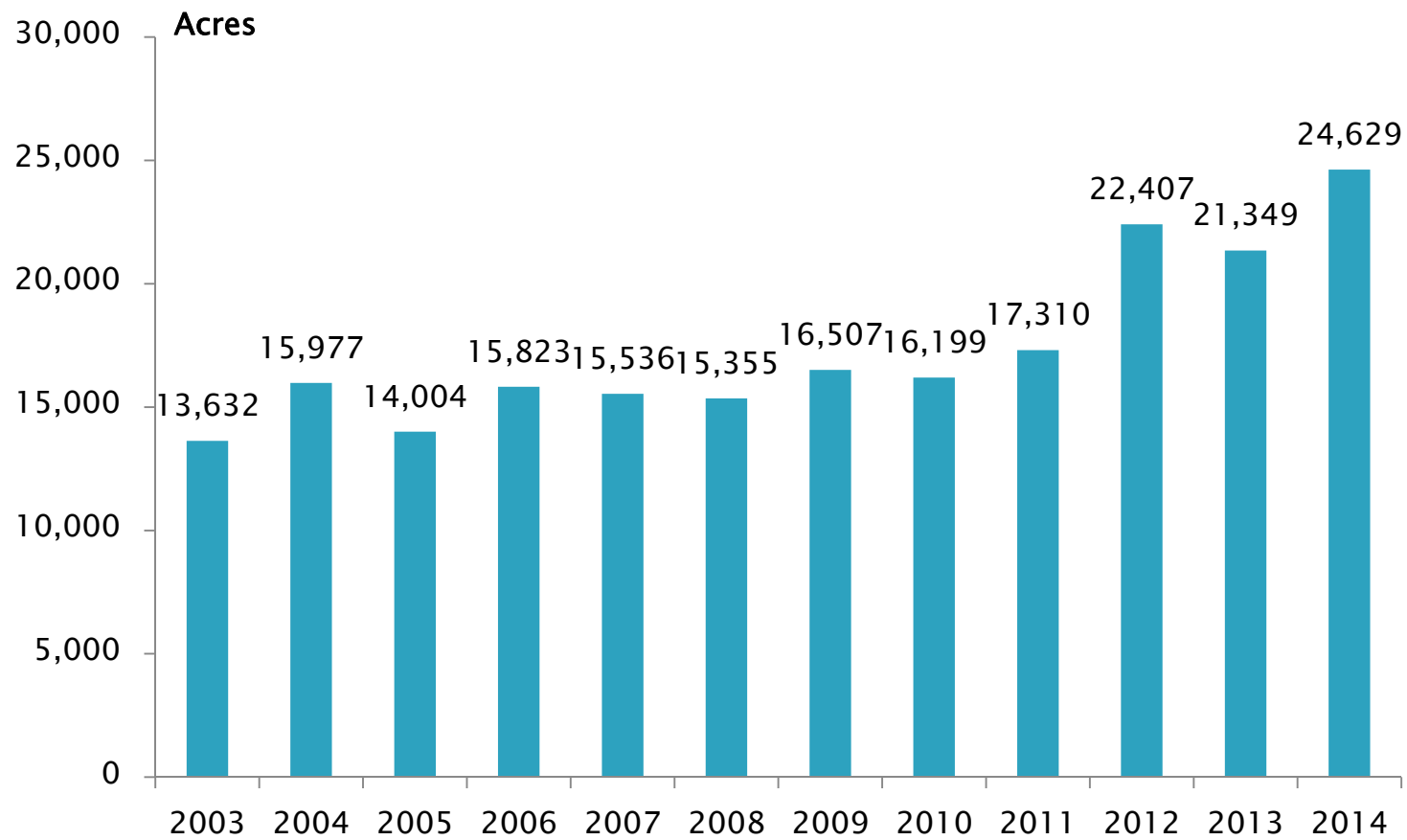
Mexican Production Volume



Source: Food and Agriculture Organization, the United Nations

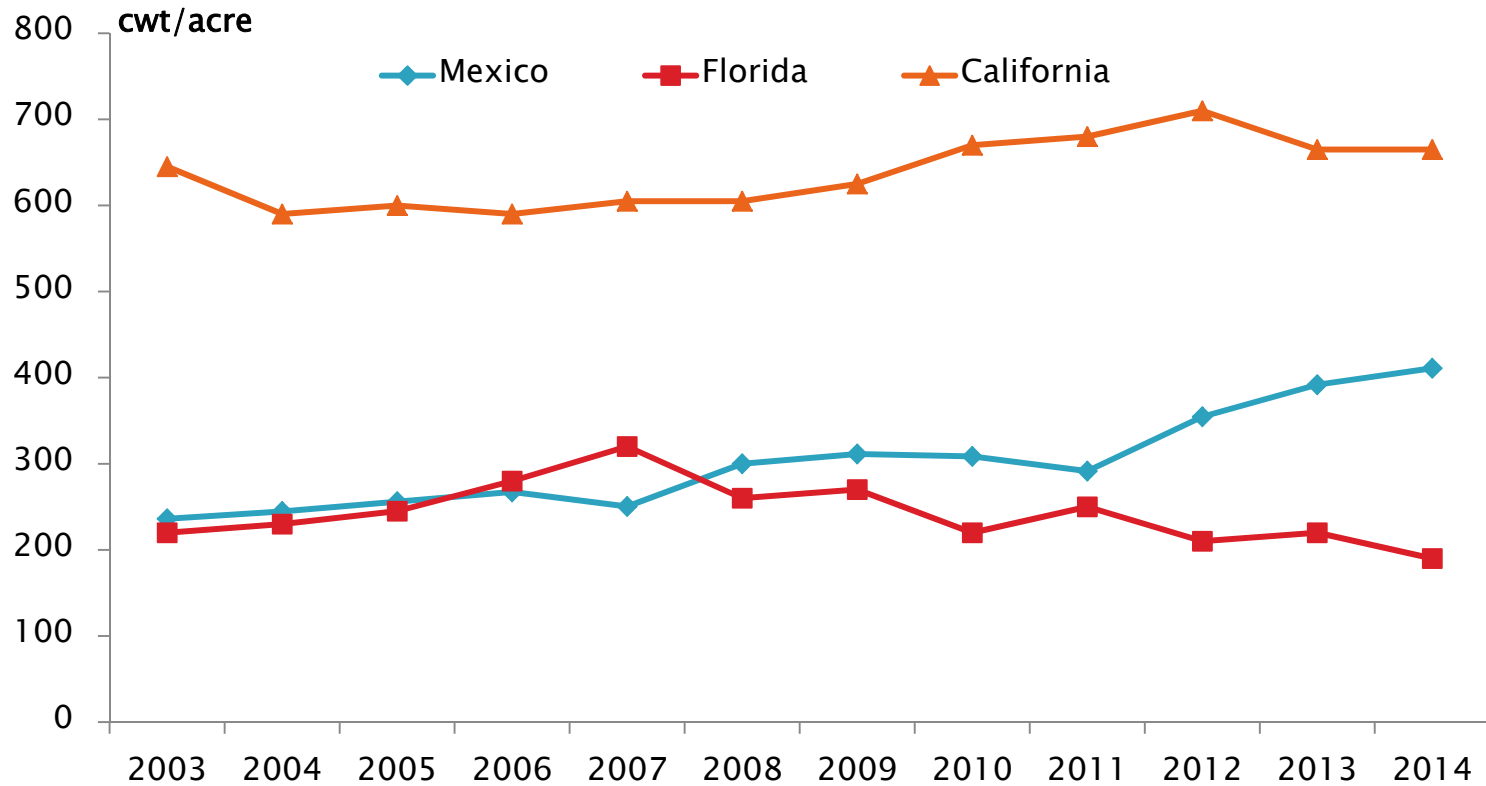


Mexican Planted Acreage



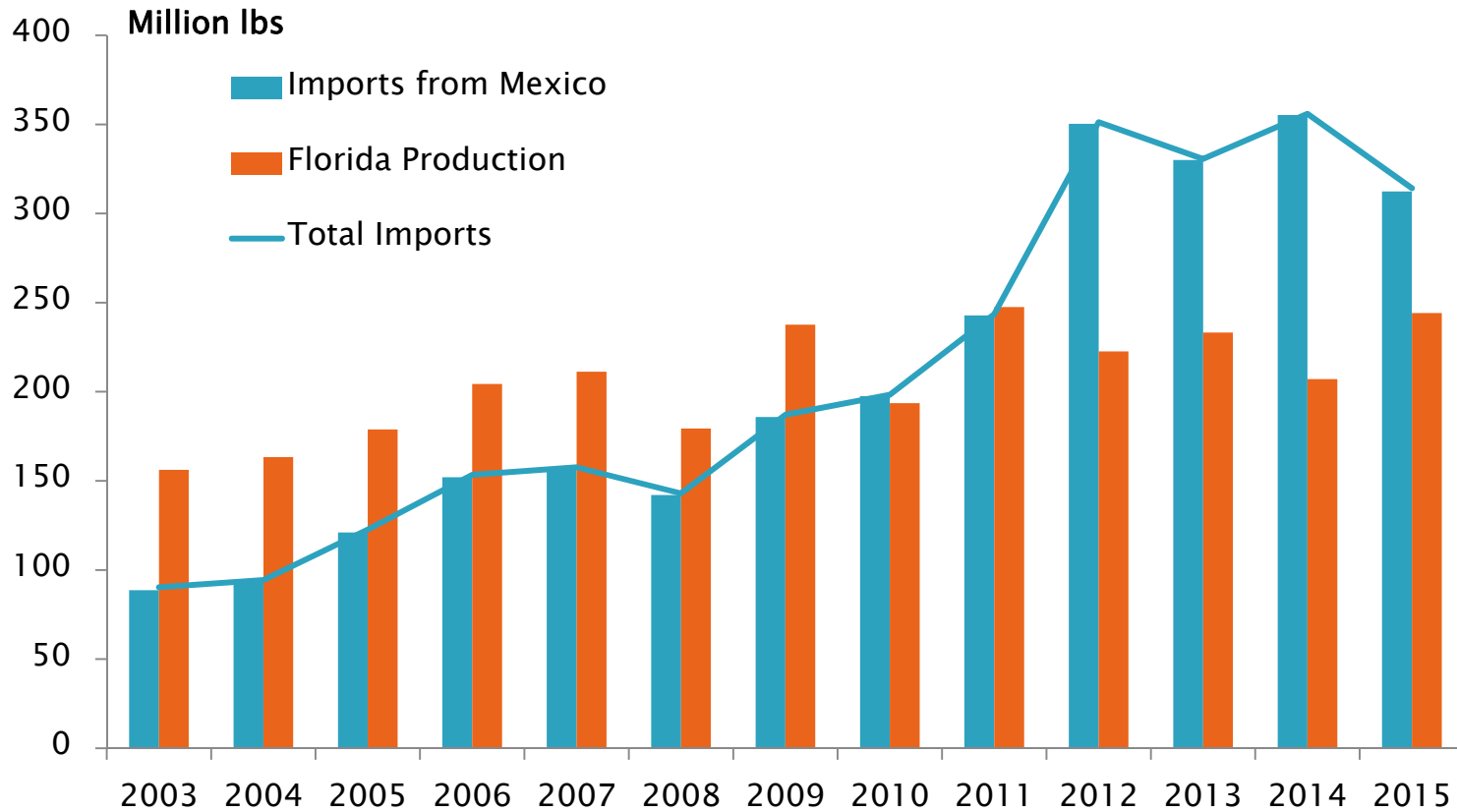
Source: Food and Agriculture Organization, the United Nations

Mexican Per Acre Yield



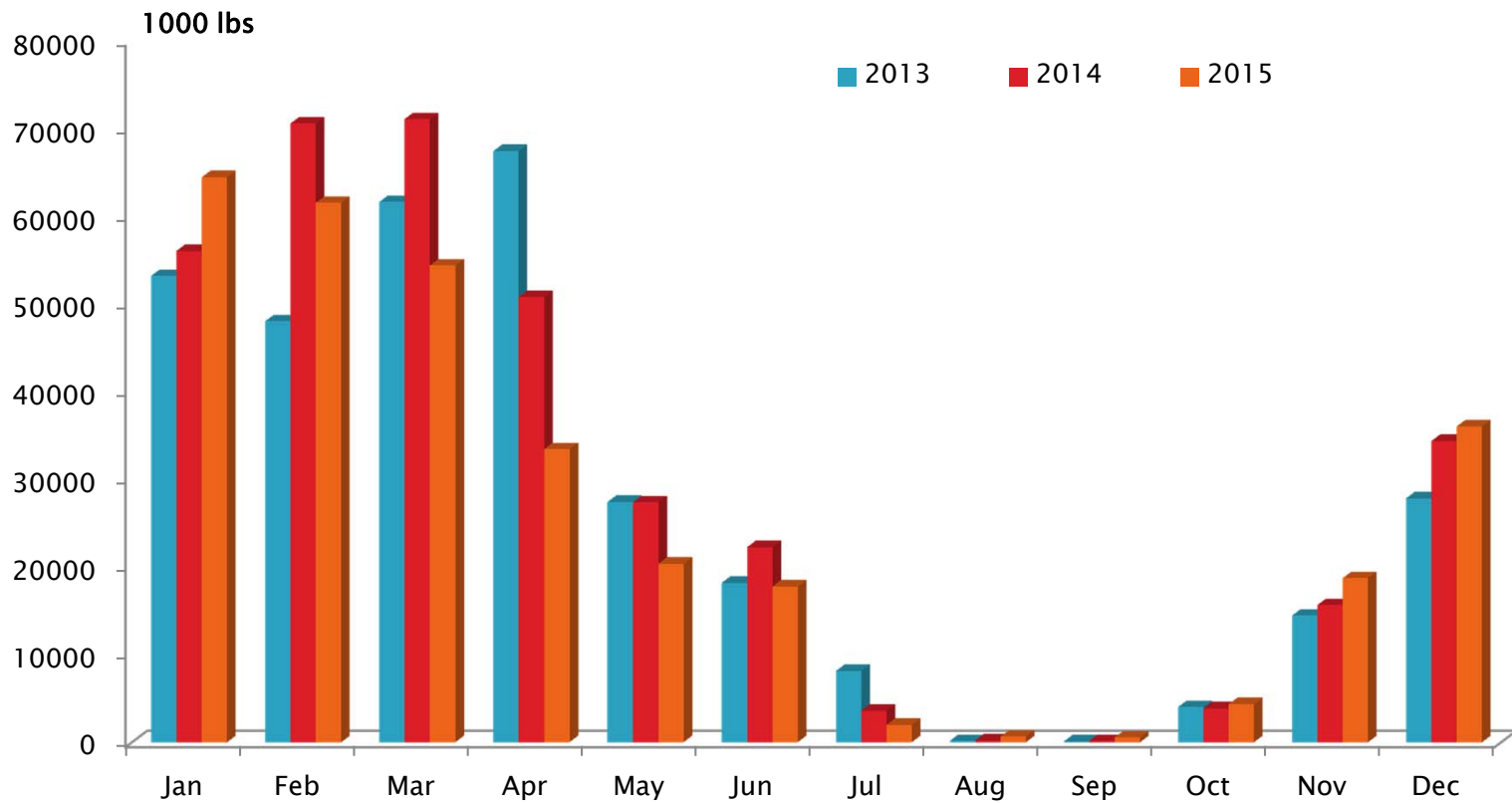
Source: National Agricultural Statistics Service, USDA
Food and Agriculture Organization, the United Nations

Fresh Strawberry Imports & Origins



Source: US Census Bureau, DOC

U.S. Monthly Fresh Strawberry Import



Source: World Trade Atlas

If Mexican shipment increases by 1 million lbs...

- **California** price will decrease by **41 cents** per flat.
- **Florida** price will decrease by **47 cents** per flat.

Weekly Effects on Production Value (California)

| Month / Week | Baseline | | | Scenario 1 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 3.868 | 2.936 | 11.357 | 2.766 | 10.700 (-0.66) |
| | 2 | 4.155 | 3.034 | 12.606 | 2.880 | 11.964 (-0.64) |
| | 3 | 2.332 | 2.663 | 6.210 | 2.521 | 5.878 (-0.33) |
| | 4 | 2.676 | 2.235 | 5.981 | 2.116 | 5.663 (-0.32) |
| Jan. | 5 | 3.518 | 2.388 | 8.400 | 2.252 | 7.921 (-0.48) |
| | 6 | 4.790 | 2.224 | 10.652 | 2.094 | 10.027 (-0.62) |
| | 7 | 6.807 | 2.113 | 14.382 | 1.977 | 13.456 (-0.93) |
| | 8 | 6.337 | 1.937 | 12.278 | 1.819 | 11.530 (-0.75) |
| Feb. | 9 | 7.557 | 1.828 | 13.816 | 1.728 | 13.060 (-0.76) |
| | 10 | 10.004 | 1.813 | 18.141 | 1.726 | 17.268 (-0.87) |
| | 11 | 10.694 | 1.649 | 17.636 | 1.582 | 16.919 (-0.72) |
| | 12 | 11.697 | 1.662 | 19.436 | 1.604 | 18.767 (-0.67) |
| Mar. | 13 | 14.265 | 1.682 | 23.987 | 1.629 | 23.238 (-0.75) |
| | 14 | 23.088 | 1.546 | 35.705 | 1.501 | 34.655 (-1.05) |
| | 15 | 32.076 | 1.478 | 47.405 | 1.434 | 45.990 (-1.41) |
| | 16 | 35.259 | 1.434 | 50.548 | 1.393 | 49.117 (-1.43) |
| Sum | | | 308.539 | | 296.15 (-12.39) | |

- **25% Increase in Mexican shipment:**
- **Industry level: Loss in value \$12.4 million.**
(\$308.5 → \$296.2)
- **Farm level, average 4,000 flats/acre: revenue will decrease by \$2,213 per acre.**

Weekly Effects on Production Value (California)

| Month / Week | Baseline | | | Scenario 2 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 3.868 | 2.936 | 11.357 | 2.596 | 10.042 (-1.31) |
| | 2 | 4.155 | 3.034 | 12.606 | 2.725 | 11.322 (-1.28) |
| | 3 | 2.332 | 2.663 | 6.210 | 2.378 | 5.546 (-0.66) |
| | 4 | 2.676 | 2.235 | 5.981 | 1.997 | 5.345 (-0.64) |
| Jan. | 5 | 3.518 | 2.388 | 8.400 | 2.115 | 7.441 (-0.96) |
| | 6 | 4.790 | 2.224 | 10.652 | 1.963 | 9.402 (-1.25) |
| | 7 | 6.807 | 2.113 | 14.382 | 1.841 | 12.529 (-1.85) |
| | 8 | 6.337 | 1.937 | 12.278 | 1.701 | 10.782 (-1.50) |
| Feb. | 9 | 7.557 | 1.828 | 13.816 | 1.628 | 12.304 (-1.51) |
| | 10 | 10.004 | 1.813 | 18.141 | 1.639 | 16.394 (-1.75) |
| | 11 | 10.694 | 1.649 | 17.636 | 1.515 | 16.203 (-1.43) |
| | 12 | 11.697 | 1.662 | 19.436 | 1.547 | 18.098 (-1.34) |
| Mar. | 13 | 14.265 | 1.682 | 23.987 | 1.577 | 22.489 (-1.50) |
| | 14 | 23.088 | 1.546 | 35.705 | 1.456 | 33.606 (-2.10) |
| | 15 | 32.076 | 1.478 | 47.405 | 1.390 | 44.575 (-2.83) |
| | 16 | 35.259 | 1.434 | 50.548 | 1.352 | 47.685 (-2.86) |
| Sum | | | 308.539 | | 283.76 (-24.78) | |

- **50% Increase in Mexican shipment:**
- **Loss in value: \$24.8 million.**
(\$308.5 → \$283.8)
- **Average farm (4,000 flats/acre): revenue will decrease by \$4,426 per acre.**

Weekly Effects on Production Value (California)

| Month / Week | Baseline | | | Scenario 3 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 3.868 | 2.936 | 11.357 | 2.257 | 8.728 (-2.63) |
| | 2 | 4.155 | 3.034 | 12.606 | 2.416 | 10.038 (-2.57) |
| | 3 | 2.332 | 2.663 | 6.210 | 2.093 | 4.881 (-1.33) |
| | 4 | 2.676 | 2.235 | 5.981 | 1.759 | 4.708 (-1.27) |
| Jan. | 5 | 3.518 | 2.388 | 8.400 | 1.843 | 6.483 (-1.92) |
| | 6 | 4.790 | 2.224 | 10.652 | 1.702 | 8.153 (-2.50) |
| | 7 | 6.807 | 2.113 | 14.382 | 1.568 | 10.676 (-3.71) |
| | 8 | 6.337 | 1.937 | 12.278 | 1.465 | 9.286 (-2.99) |
| Feb. | 9 | 7.557 | 1.828 | 13.816 | 1.428 | 10.792 (-3.02) |
| | 10 | 10.004 | 1.813 | 18.141 | 1.464 | 14.648 (-3.49) |
| | 11 | 10.694 | 1.649 | 17.636 | 1.381 | 14.769 (-2.87) |
| | 12 | 11.697 | 1.662 | 19.436 | 1.433 | 16.761 (-2.67) |
| Mar. | 13 | 14.265 | 1.682 | 23.987 | 1.472 | 20.991 (-3.00) |
| | 14 | 23.088 | 1.546 | 35.705 | 1.365 | 31.507 (-4.20) |
| | 15 | 32.076 | 1.478 | 47.405 | 1.301 | 41.746 (-5.66) |
| | 16 | 35.259 | 1.434 | 50.548 | 1.271 | 44.821 (-5.73) |
| Sum | | | 308.539 | | 258.99 (-49.55) | |

- **100%** Increase in Mexican shipment:
- Loss in value: **\$49.6 million.** (\$308.5 → \$259.0)
- Average farm (4,000 flats per acre): revenue will decrease by **\$8,853** per acre.

Weekly Effects on Production Value (Florida)

| Month / Week | Baseline | | | Scenario 1 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 4.369 | 2.988 | 13.053 | 2.744 | 11.988 (-1.07) |
| | 2 | 6.367 | 3.020 | 19.228 | 2.806 | 17.867 (-1.36) |
| | 3 | 7.606 | 2.238 | 17.018 | 2.069 | 15.737 (-1.28) |
| | 4 | 8.443 | 2.081 | 17.573 | 1.925 | 16.256 (-1.32) |
| Jan. | 5 | 9.168 | 1.909 | 17.505 | 1.758 | 16.115 (-1.39) |
| | 6 | 11.673 | 1.863 | 21.740 | 1.711 | 19.970 (-1.77) |
| | 7 | 10.696 | 1.878 | 20.089 | 1.708 | 18.272 (-1.82) |
| | 8 | 12.389 | 1.613 | 19.977 | 1.476 | 18.284 (-1.69) |
| Feb. | 9 | 15.089 | 1.425 | 21.501 | 1.317 | 19.878 (-1.62) |
| | 10 | 15.701 | 1.363 | 21.393 | 1.271 | 19.961 (-1.43) |
| | 11 | 17.754 | 1.316 | 23.358 | 1.242 | 22.043 (-1.31) |
| | 12 | 22.009 | 1.019 | 22.421 | 0.969 | 21.336 (-1.09) |
| Mar. | 13 | 20.235 | 1.066 | 21.563 | 1.017 | 20.578 (-0.99) |
| | 14 | 17.577 | 1.071 | 18.824 | 1.020 | 17.927 (-0.90) |
| | 15 | 11.854 | 1.027 | 12.169 | 0.965 | 11.440 (-0.73) |
| | 16 | 5.856 | 1.034 | 6.058 | 0.965 | 5.653 (-0.41) |
| Sum | | | 293.469 | | 273.30 (-20.17) | |

- 25% Increase in Mexican shipment?
- Loss in value: \$20.2 million. (\$293.5 → \$273.3)
- Average farm (3,000 flats per acre), revenue will decrease by \$2,460 per acre.

Weekly Effects on Production Value (Florida)

| Month / Week | Baseline | | | Scenario 2 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 4.369 | 2.988 | 13.053 | 2.500 | 10.923 (-2.13) |
| | 2 | 6.367 | 3.020 | 19.228 | 2.592 | 16.506 (-2.72) |
| | 3 | 7.606 | 2.238 | 17.018 | 1.901 | 14.456 (-2.56) |
| | 4 | 8.443 | 2.081 | 17.573 | 1.769 | 14.939 (-2.63) |
| Jan. | 5 | 9.168 | 1.909 | 17.505 | 1.606 | 14.725 (-2.78) |
| | 6 | 11.673 | 1.863 | 21.740 | 1.559 | 18.199 (-3.54) |
| | 7 | 10.696 | 1.878 | 20.089 | 1.538 | 16.456 (-3.63) |
| | 8 | 12.389 | 1.613 | 19.977 | 1.339 | 16.591 (-3.39) |
| Feb. | 9 | 15.089 | 1.425 | 21.501 | 1.210 | 18.254 (-3.25) |
| | 10 | 15.701 | 1.363 | 21.393 | 1.180 | 18.529 (-2.86) |
| | 11 | 17.754 | 1.316 | 23.358 | 1.167 | 20.728 (-2.63) |
| | 12 | 22.009 | 1.019 | 22.421 | 0.920 | 20.250 (-2.17) |
| Mar. | 13 | 20.235 | 1.066 | 21.563 | 0.968 | 19.592 (-1.97) |
| | 14 | 17.577 | 1.071 | 18.824 | 0.969 | 17.030 (-1.79) |
| | 15 | 11.854 | 1.027 | 12.169 | 0.904 | 10.712 (-1.46) |
| | 16 | 5.856 | 1.034 | 6.058 | 0.896 | 5.247 (-0.81) |
| Sum | | | 293.469 | | 253.14 (-40.33) | |

- 50% Increase in Mexican shipment:
- Loss in value: **\$40.3 million.** (\$293.5 → \$253.1)
- Average farm (3,000 flats per acre), revenue will decrease by **\$4,919** per acre.

Weekly Effects on Production Value (Florida)

| Month / Week | Baseline | | | Scenario 3 | | |
|--------------|-------------------------|----------------|--------------------|----------------|--------------------|----------------|
| | Quantity (Million lbs.) | Price (\$/lb.) | Value (Million \$) | Price (\$/lb.) | Value (Million \$) | |
| Dec. | 1 | 4.369 | 2.988 | 13.053 | 2.012 | 8.793 (-4.26) |
| | 2 | 6.367 | 3.020 | 19.228 | 2.165 | 13.784 (-5.44) |
| | 3 | 7.606 | 2.238 | 17.018 | 1.564 | 11.894 (-5.12) |
| | 4 | 8.443 | 2.081 | 17.573 | 1.458 | 12.306 (-5.27) |
| Jan. | 5 | 9.168 | 1.909 | 17.505 | 1.303 | 11.945 (-5.56) |
| | 6 | 11.673 | 1.863 | 21.740 | 1.256 | 14.658 (-7.08) |
| | 7 | 10.696 | 1.878 | 20.089 | 1.199 | 12.822 (-7.27) |
| | 8 | 12.389 | 1.613 | 19.977 | 1.066 | 13.205 (-6.77) |
| Feb. | 9 | 15.089 | 1.425 | 21.501 | 0.995 | 15.006 (-6.49) |
| | 10 | 15.701 | 1.363 | 21.393 | 0.998 | 15.665 (-5.73) |
| | 11 | 17.754 | 1.316 | 23.358 | 1.019 | 18.098 (-5.26) |
| | 12 | 22.009 | 1.019 | 22.421 | 0.821 | 18.079 (-4.34) |
| Mar. | 13 | 20.235 | 1.066 | 21.563 | 0.871 | 17.622 (-3.94) |
| | 14 | 17.577 | 1.071 | 18.824 | 0.867 | 15.235 (-3.59) |
| | 15 | 11.854 | 1.027 | 12.169 | 0.781 | 9.254 (-2.91) |
| | 16 | 5.856 | 1.034 | 6.058 | 0.758 | 4.437 (-1.62) |
| Sum | | | 293.469 | | 212.80 (-80.67) | |

- **100%** Increase in Mexican shipment:
- Loss in value: **\$80.7 million.** (\$293.5 → \$212.8)
- Season shortened by **5 weeks:** total loss **\$145 million.**
- Average farm (3,000 flats per acre), revenue will decrease by **\$8,000-\$9,000** per acre.

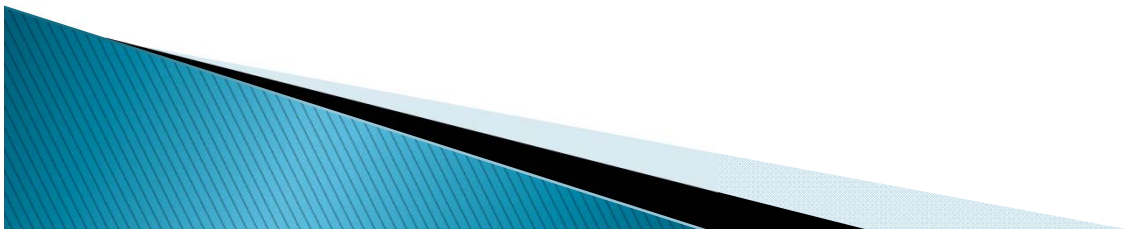
Assuming no changes

- ▶ The results present a static picture: **short-term**, assuming no change in CA and FL supply
- ▶ Assuming no changes in market destinations, etc.



Solutions

- ▶ **INNOVATE and CHANGE:**
 - optimal supply (total & yield pattern): \$3k–5k more/acre)
 - new varieties
 - new markets
 - Mechanical harvesting (e.g. picking robots)



Conclusions

- Expansion in Mexican strawberry production capacity will cause severe losses to domestic growers
- To avoid this, the industry needs to develop new varieties, to differentiate in this generic commodity market
- Needs to develop new technologies
- Needs to develop new market



THANK YOU!

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