China – After Accession to WTO: California’s Customer or Cutthroat Competitor?

Scott Rozelle
Professor and Chancellor’s Fellow
Department of Agricultural and Resource Economics
UC Davis

China’s Accession to the WTO and Impact on Horticulture Supply, Demand and Trade

- Complicated

- Little work done in this area (most on major grains and other staple crops)

- Horticulture economy is changing as fast as China is …
... because: China is in the Midst of Wrenching Changes

- Industrializing
- Urbanizing
- Marketizing
- Becoming wealthier
- Western-izing

... and: Falling Barriers and Opening to the Outside World

including WTO’s Accession

Huang, 2001
Total Trade (million US$)

Agricultural Trade (million US$)
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Agricultural Trade Balance by Factor Intensity, 1984 to 2002 (mil US$)

Outline of Presentation

- Horticulture Facts: Supply, Demand and Trade
- Relative Competitiveness: China vs. California
- What Can California Do?
Horticulture Facts: Supply, Demand and Trade

China has Higher Share of Land in Orchards than Most Other Countries
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Increasing Sown Areas of Vegetables in China and California (1000 ha)

Trends of Cultivated Areas of Fruits and Nuts in China and California (1000 ha)

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6
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### California’s Top 20 Ag. Products vs. China

<table>
<thead>
<tr>
<th>Products</th>
<th>$ Million</th>
<th>Rank</th>
<th>Products</th>
<th>$ Million</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almonds</td>
<td>3704</td>
<td>1</td>
<td>Lettuce</td>
<td>682</td>
<td>11</td>
</tr>
<tr>
<td>Cotton</td>
<td>2836</td>
<td>2</td>
<td>Raisins</td>
<td>537</td>
<td>12</td>
</tr>
<tr>
<td>Wine</td>
<td>2247</td>
<td>3</td>
<td>Plums, Dried</td>
<td>471</td>
<td>13</td>
</tr>
<tr>
<td>Grapes, Table</td>
<td>1484</td>
<td>4</td>
<td>Strawberries</td>
<td>362</td>
<td>14</td>
</tr>
<tr>
<td>Milk and Cream</td>
<td>1267</td>
<td>5</td>
<td>Tomatoes, fresh</td>
<td>347</td>
<td>15</td>
</tr>
<tr>
<td>Oranges</td>
<td>951</td>
<td>6</td>
<td>Broccoli</td>
<td>346</td>
<td>16</td>
</tr>
<tr>
<td>Tomatoes, processed</td>
<td>898</td>
<td>7</td>
<td>Peaches, etc</td>
<td>310</td>
<td>17</td>
</tr>
</tbody>
</table>

### Milk, Almonds and Pistachios – Commodities Dominated by California, 2000 (1000 mt)
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Grapes in **China** and **California**, (in 1000 ha), 2000

- But, currently Australia is in China on a large, state-backed push on the wine industry

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**Tomatoes and Garlic** – Commodities dominated by **China**, 2000 (1000 ha)
Walnuts and Peaches -- 
China and California, area (1000 ha) in 2000

Walnut, Grapes and Peaches -- 
China Area Trends, 1985-00 (1000 ha)

Growth in early 1990s was for edible oil, but future is not in walnut oil
Urban Fruit/Nut Consumption in China

Price of Fruit Relative to All Other Prices, China

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Rates of Protection (%)
Fruit in China

- Rates have fallen as China has expanded its exports of fruit.

Apple Exports and Imports in China, 1986 to 1999 (Tons)

- Fresh, Exports
- Juice, Exports
- Fresh, Imports
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12
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China’s Imports and Exports of Cling Peaches

Most of imports from the US

China’s Imports and Exports of Prunes

Almost all imports from California
China’s Imports and Exports of Tree Crop Commodities
(Walnuts, Cling Peaches, Almonds and Dried Prunes)

Pattern of Fruits and Vegetables Industries in China

- Significant percentage of ag. land used in horticultural products (more than US and more than California)
- Rising sown area and production in many (not all) of horticultural products grown in California
- Although demand growing fast, production growing faster → lower prices → falling NPR → growing exports
- What is future hold? Race: Supply vs. Demand!
Relative Competitiveness: China versus California

- Comparing the Level of Cost of Production of Major Agricultural Commodities in China and California

<table>
<thead>
<tr>
<th>Costs</th>
<th>China</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>119</td>
<td>245</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>502</td>
<td>210</td>
</tr>
<tr>
<td>Chemicals</td>
<td>284</td>
<td>326</td>
</tr>
<tr>
<td>Irrigation</td>
<td>72</td>
<td>304</td>
</tr>
<tr>
<td>Machinery Costs</td>
<td>44</td>
<td>3983</td>
</tr>
<tr>
<td>Labor Costs</td>
<td>1186</td>
<td>6254</td>
</tr>
<tr>
<td>Overhead &amp; Management</td>
<td>77</td>
<td>17</td>
</tr>
<tr>
<td>Other Variable Costs</td>
<td>412</td>
<td>734</td>
</tr>
<tr>
<td>Fixed Cost</td>
<td>52</td>
<td>30</td>
</tr>
<tr>
<td>Total Costs Per Hectare</td>
<td>2748</td>
<td>12103</td>
</tr>
<tr>
<td>Per kilogram cost ($/kg)</td>
<td>0.05</td>
<td>0.4</td>
</tr>
<tr>
<td>% of labor cost in total</td>
<td>43%</td>
<td>52%</td>
</tr>
<tr>
<td>% of machinery cost in total</td>
<td>4%</td>
<td>33%</td>
</tr>
</tbody>
</table>
Cost of Production of *Fresh Tomatoes*

**China** and **California**

Cost of Production of *Peppers*

**China** and **California**

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16
Cost of Production of Processing Tomatoes

**China and California**

| Decomposition of Cost of Production |
|---|---|
| **China** | **California** |
| Labor | Other |
| Mach | Other |

<table>
<thead>
<tr>
<th>Cost Per Kilogram Output (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC</td>
</tr>
</tbody>
</table>

**Summary -- Competitiveness**

- When labor can make up a large part of a crop in China, it has a huge cost advantage … these are some of the crops that have grown the fastest …
- When land (rice) or land and capital (processing tomatoes), costs are more similar … China is investing aggressively in technology and capital-intensive / logistic intensive research and infrastructure
Conclusions

• China’s agriculture has been transforming at an incredible rate … more open; more towards comparative advantage; more efficient
• China has great potential to continue growing in this direction
• Biggest advantage in low production costs of labor intensive commodities

Conclusions

• California is due for tough competition for many crops …
• Competition: first, in third markets (Japan; Hong Kong; Korea; Taiwan) … later, directly in CA(?)
• Extent of competition will depend on:
  -- rate of improvement of quality and marketing (but this is improving fast!)
  -- growth of China’s domestic demand
  -- how California and other competitors or collaborators perform
What can California do?

- **Strategy ONE:** “Ignore what is going on”
  [but can only adopt this strategy if buy into 1 or more of several assumptions]

  *China is not a threat*
  - today’s presentation should be evidence this is not so
    - on its own, China is developing VERY FAST …
    - but there is time
  - China also has several important regulatory
    - advantages (but California has other advantages)

  *China will implode:*
  - there are severe water problems
  - infrastructure is so poor, can not compete

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What can California do?

- **Strategy TWO:** “Raise Protection”

  Because China is entering WTO as a “non-market economy,” it is easy to file and win dumping cases …
  - garlic
  - honey
  - apple juice concentrate

  But, these are almost surely a function of the way the laws are written … China is NOT dumping … in longer run, politics and WTO appeals will *probably* limit effectiveness of this strategy
What can California do?

- Strategy THREE: “Compete”
  - Research
  - Promote and Differentiate California’s Products
  - Invest and Become Partners