China Citrus Industry: Current Status and Future Growth

Yi Shen
Technical Manager, Citrus
Firmenich China
Sept. 2013
Agenda

- Current Status of Citrus Industry in China
- Citrus Processing Industry in China
- Citrus Juice Consumption in China
- Outlook of Chinese Citrus Industry
01 Current Status of Citrus Industry in China
Current Status of Citrus Production in China

- Developed rapidly in both acreage and yield during the past 30 years
- In 1990, citrus acreage reached 1.14 million hectares, ranking first in the world.
- In 2008, China became the world’s largest citrus producer
- Mainly for fresh market, with only 5% for processing.
Citrus Production and Acreage in China

**Citrus Production (tonnes)**

**Area Harvested (Ha)**

Source: FAOSTAT
Citrus Production (China vs Brazil, tons)

Source: FAOSTAT
Citrus Growing Area

- Large area suitable for citrus cultivation
- 90% planted in hilly and mountainous regions
- 19 provinces in China can grow citrus
- 9 provinces contribute 95% of total citrus production
Key Producing Provinces
Key Producing Provinces Output

Citrus Output in 2011-2012, Tonnes

Source: CRI
Citrus Strategic Location
- Four Citrus Zones
China: All Citrus by Varieties

- Tangerines, mandarins, clem.: 42%
- Oranges: 21%
- Citrus fruit, N.E.S: 21%
- Lemon, Lime: 4%
- Grapefruit (inc. pomelos): 12%

Source: FAOSTAT
Changes in China Citrus Varieties

The structural changes of citrus varieties in China (Tons)

Source: FAOSTAT
Citrus Processing Industry in China
Citrus Utilization in China

- **Mostly as Fresh Fruit for Domestic Consumption (92%)**
  - Mandarins and oranges represent 54% and 32% respectively of total fresh consumption.
  - Per capita consumption of fresh citrus in China is 13 kg per year, close to world average 17 kg.

- **As Fresh Fruit for Export (3%)**
  - China exports a small proportion of its citrus production
  - Most are mandarins
  - Mostly to SE Asia and Russia

- **For Processing (5%)**
  - Canned Citrus / Citrus juice extraction / Others
Canned Citrus Industry

- China is in the leading position
- Produced about 400,000 MT canned citrus in 2011
- Mandarins are the main raw materials for canned citrus
- Mostly for export: World largest exporter
- Labor intensive and manual work
- Labor costs are up 40-50%
Tangerines / Mandarins for Processing in the World

2012-2013 July (1,000 Metric Tons)

- China: 660, 46%
- European Union: 320, 22%
- United States: 158, 11%
- Japan: 100, 7%
- Korea, South: 85, 6%
- Israel: 38, 3%
- Argentina: 35, 3%
- Other: 31, 2%

Source: USDA
Main Citrus Canneries

- Zhengjing Taizhou Yiguan Food Co. Limited

- Hunan Chic Foods Co. Limited
Orange Juice Extraction Industry

- Capacity and yield increased greatly in recent years
- Major plants in Chongqing, Sichuan, Hunan
- The capacity is equivalent to 170 JBT extractors and is able to process 2 million tons oranges per year.
- An estimate of 600,000 tons oranges was used for juice extraction in 2011
  - 40,000 tons 65°Brix FCOJ
  - 20,000 tons NFC
- Extractor utilization is below what is expected
FCOJ Production and Import in China

<table>
<thead>
<tr>
<th>Year</th>
<th>Imported (1000 t)</th>
<th>Produced (1000 t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>34.7</td>
<td>2.5</td>
</tr>
<tr>
<td>2003</td>
<td>48.5</td>
<td>3</td>
</tr>
<tr>
<td>2004</td>
<td>39.1</td>
<td>3.5</td>
</tr>
<tr>
<td>2005</td>
<td>57.3</td>
<td>5.4</td>
</tr>
<tr>
<td>2006</td>
<td>60.6</td>
<td>18</td>
</tr>
<tr>
<td>2007</td>
<td>61.8</td>
<td>22</td>
</tr>
<tr>
<td>2008</td>
<td>43.3</td>
<td>24</td>
</tr>
<tr>
<td>2009</td>
<td>48.9</td>
<td>25</td>
</tr>
<tr>
<td>2010</td>
<td>66.2</td>
<td>26</td>
</tr>
<tr>
<td>2011</td>
<td>73.3</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Chinese Custom and Juice Industry
The Challenge of Orange Juice Extraction Industry

- Juice orange shortage
- Short production window
- Inconsistent fruit quality
- Unstable fruit price
Juice Orange Shortage

- Become the bottleneck of OJ development
- The income of planting juice orange is less than planting table orange
- Balance the benefit between processors and growers
- Increasing fruit yield and quality and reducing cost
- Large scale cultivation
  - large-scale professional farmer and company to participate
  - Encourage farmers into cooperatives
Main Orange Juice Extraction Plants

Cha Meei Food Intl. Co

Summi Food Co.
Tianyi Ltd

Huiyaun Juice Group

Chongqing Three Gorge Construction Group
03 Citrus Juice Consumption in China
China Juice Market

China JUN market size (2011, Off trade Volume) 15.5 billion litres, 17.8 billion USD. Growth rate per year 13.7%

Source: Euromonitor
Market Shares by Volume

- Juice Drink (up to 24% juice) 86%
- Nectars (25-99% juice) 12%
- 100% juice 2%
Citrus Market Share in 100% Juice

Orange: 48%
Apple: 30%
Mixed fruits: 17%
Grape: 1%
Other Flavours: 2%
Peach: 1%
Tomato: 1%
Other: 2%

100% Juice
Citrus Market Share in Nectar

- Orange: 55%
- Mixed fruits: 17%
- Apple: 12%
- Other Flavours: 9%
- Grape: 5%
- Kiwi: -1%
- Pineapple: 1%
- Peach: 1%
- Other Flavours: 9%

Nectars (25-99% Juice)
Citrus Market Share in Juice Drinks

- Orange: 37%
- Pear: 25%
- Mixed fruits: 16%
- Apple: 5%
- Pineapple: 6%
- Other Flavours: 6%
- Grape: 4%
- Grapefruit: -1%
- Guava: 1%
- Lemon and Lime: 5%

Juice Drinks (up to 24% Juice)
Chinese Fruit Juice Consumption on SSE juice in 2011

1.8 million tons SSE juice consumed

- Orange juice: 42%
- Apple juice: 23%
- Pear juice: 17%
- Other juice: 18%

Source: Chinese Custom and Juice Industry
China Juice Market

ORANGE IS THE CLASSIC AND TOP TONALITY IN JUICE CATEGORY

Ting Hsin Orange Juice Drink
President Orange Juice Drink
Coca Cola Minute Maid Orange Juice Drink
Pepsico Tropicana Orange Juice Drink
Suntory Orange Juice Drink
China Juice Market

NEW CITRUS CREATE NEW INTEREST

Ting Hsing
Honey Yuzu

President
Crystal Sugar
Kumquat

Tao Di
Mandarine Lemon

Yangsengtang
C100 Grapefruit
Key Trends Towards Citrus:

- Orange is a classic and leading flavour
- Lemon is getting popular
- Adding fruit pulp attracts the consumers
- New citrus flavours such as kumquat offer new innovation
04 Outlook of Citrus Industry in China
Outlook of Citrus Industry in China

- The acreage will remain stable while the production will increase with the improvement of agricultural practices.
- Will remain for the domestic fresh market.
- Export will still be low at the level of about 5%.
- Tangerine and mandarin will remain as the major variety.
Outlook of Citrus Industry in China

- Sweet orange, especially the navel orange and summer orange will increase steadily
- Both late season and extra early cultivars and acreage will increase
- More modern packing houses will be set up to enlarge the post harvest capacity
- Although the orange juice will still rely on imports, the domestically produced orange juice will increase
Acknowledgement

Prof. Wu Houjiu
Vice Director of National Research Center for Citrus Engineering Technology
Beibei, 400712 Chongqing, P. R. China
Thanks for your attention!