Wheat Industry Trends in South Asia
A Growth Market Like No Other

Prairie Grains Conference
December 12, 2019
Grand Forks, North Dakota

Joe Sowers
Regional Vice President
Philippines and South Korea
US wheat exports to South Asia

115 mbu

241 mbu


SRW HRW SW HRS
US wheat sales to South Asia

% of world sales

<table>
<thead>
<tr>
<th>Year</th>
<th>SRW</th>
<th>HRW</th>
<th>SW</th>
<th>HRS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>2010/11</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>2012/13</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>2014/15</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>2016/17</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>2018/19</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
</tr>
</tbody>
</table>

thousand metric tons

2018/19
2016/17
2014/15
2012/13
2010/11
2008/09

% of world total

SRW
HRW
SW
HRS

US WHEAT ASSOCIATES
The world’s most reliable choice.
Top 10 HRS Markets

1,000 metric tons

- Philippines
- Japan
- China
- Taiwan
- European Union
- Korea
- Mexico
- Thailand
- Malaysia
- Guatemala

5-year average
2018/19

U.S. WHEAT ASSOCIATES
The world’s most reliable choice.
US HRS sales to South Asia

% of world sales


- 22%
- 20%
- 32%
- 29%
- 33%
- 35%
- 29%
- 31%
- 30%
- 45%

thousand metric tons

0 500 1,000 1,500 2,000 2,500 3,000 3,500

2018/19
Southeast Asian wheat uses

- 400 mbu
- 84%
- 735 mbu

Year: 08/09 to 19/20

Legend:
- Blue: Food
- Green: Feed

U.S. WHEAT ASSOCIATES
The world's most reliable choice.
## ASEAN Population Growth

<table>
<thead>
<tr>
<th>Country</th>
<th>Population 2019 (millions)</th>
<th>Growth Rate</th>
<th>Median age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>260,581</td>
<td>0.9%</td>
<td>30.2</td>
</tr>
<tr>
<td>Philippines</td>
<td>105,893</td>
<td>1.6%</td>
<td>23.5</td>
</tr>
<tr>
<td>Vietnam</td>
<td>96,160</td>
<td>0.9%</td>
<td>30.5</td>
</tr>
<tr>
<td>Thailand</td>
<td>68,414</td>
<td>0.3%</td>
<td>37.7</td>
</tr>
<tr>
<td>Myanmar</td>
<td>55,124</td>
<td>0.9%</td>
<td>28.2</td>
</tr>
<tr>
<td>Japan</td>
<td>126,451</td>
<td>(0.2%)</td>
<td>47.3</td>
</tr>
<tr>
<td>South Korea</td>
<td>51,181</td>
<td>0.5%</td>
<td>41.8</td>
</tr>
<tr>
<td>Taiwan</td>
<td>23,508</td>
<td>0.2%</td>
<td>40.7</td>
</tr>
</tbody>
</table>

Source: CIA World Factbook
Philippines Age Pyramid

U.S. WHEAT ASSOCIATES
The world's most reliable choice.
Philippines/Japan Age Pyramids

60%  90%

Males  Females
Rise of the Middle Class

**MIDDLE CLASS CONSUMER SPENDING**
- **Outer Ring** (2030): $11.1 trillion in trillions, USD (projected)
- **Inner Ring** (2009): $8.1 trillion in trillions, USD

- **Asia Pacific**: $32.9 trillion
- **Europe**: $8.1 trillion
- **North America**: $5.5 trillion
- **Sub-Saharan Africa**: $0.4 trillion
- **Middle East and North Africa**: $2.2 trillion
- **Central/South America**: $1.5 trillion
- **$3.3 trillion**

**+571% GROWTH**

While increasing Chinese spending tops the news, the East Asia Bureau of Economic Research forecasts that spending in India and Indonesia will grow at similar rates.

*Source: OECD*
88 percent of the next billion entrants into the middle class will be in Asia.

By 2030, Asia could represent 2/3 of the global middle class population.

- **350m** in China
- **380m** in India
- **210m** in rest of Asia
- **130m** in rest of the world

*Brookings*
Philippines: New Capital of Call Centers

- $70 billion - 8% of GDP
- 1.5 million employees

- Companies shift facilities from India to the Philippines
- Proficient English, preferred accent and customer service aptitude
- Fast paced, 24/7, commuting lifestyle… CHANGING DIETS
### ASEAN GDP

<table>
<thead>
<tr>
<th>PPP (trillion int. dollars)</th>
<th>Real growth rate</th>
<th>forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>3.495</td>
<td>5.0</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.320</td>
<td>1.0</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.999</td>
<td>6.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.953</td>
<td>6.1</td>
</tr>
<tr>
<td>Vietnam</td>
<td>0.710</td>
<td>6.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.565</td>
<td>3.9</td>
</tr>
<tr>
<td>Myanmar</td>
<td>0.331</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Source: CIA World Factbook/Euromonitor
ASEAN per capita wheat consumption

source: USDA/Euromonitor
Australian Rainfall Deciles
1 April to 30 September 2019
Distribution Based on Gridded Data
Australian Bureau of Meteorology

http://www.bom.gov.au
Australia Situation

- **Beginning stocks**
- **Production**
- **Imports**
- **Exports**
- **Domestic use**

- **MMT**

- **Years**: 09/10, 10/11, 11/12, 12/13, 13/14, 14/15, 15/16, 16/17, 17/18, 18/19, 19/20

- **Values (MMT)**:
  - 20.9, 13.8, 7.5, 5.7, 5.5, 5.0, 17.3, 9.0, 9.2, 8.5, 17.2

- **Graph Legend**
  - Blue: Beginning stocks
  - Yellow: Production
  - Green: Imports
  - Blue: Exports
  - Red: Domestic use
Russian wheat trade

533 mbu

1.5 bbu

20% of world trade

source: USDA
Russia Situation

Highest planted acreage in history

Beginning stocks     Production     Imports     Exports     Domestic use

Russia Situation

Highest planted acreage in history
US wheat exports shift from Middle East and Africa…

<table>
<thead>
<tr>
<th>Importing countries</th>
<th>2005-09</th>
<th>2014-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>1.7</td>
<td>-</td>
</tr>
<tr>
<td>Iraq</td>
<td>1.3</td>
<td>-</td>
</tr>
<tr>
<td>Venezuela</td>
<td>0.8</td>
<td>-</td>
</tr>
<tr>
<td>Yemen</td>
<td>0.7</td>
<td>-</td>
</tr>
<tr>
<td>Japan</td>
<td>3.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Others</td>
<td>7.6</td>
<td>6.2</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Korea South</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Brazil</td>
<td>-</td>
<td>1.0</td>
</tr>
<tr>
<td>China</td>
<td>-</td>
<td>0.9</td>
</tr>
<tr>
<td>Italy</td>
<td>-</td>
<td>0.6</td>
</tr>
<tr>
<td>Peru</td>
<td>-</td>
<td>0.5</td>
</tr>
</tbody>
</table>

United States wheat exports

- **2005-09** 5-year average: 27.0 million tons
- **2014-16** 3-year average: 24.1 million tons

…to Asia and Latin America

source: ERS
US Winter Wheat Plantings

Million Acres

Source: USDA Prospective Plantings Report

Lowest in over a century
Population projections, 2015-2100

SOURCE: UN Population Division, "World Population Prospects, the 2015 Revision"
Top Wheat Importers in the World

Source: USDA: Production, Supply and Distribution
US wheat sales to Indonesia


thousand metric tons

SRW HRW SW HRS
### Flour Consumption

#### Indonesia

**9 MMT wheat market**

<table>
<thead>
<tr>
<th>Product Type</th>
<th>SME</th>
<th>Ind.</th>
<th>HH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 metric tons</td>
<td>5,330</td>
<td>2,460</td>
<td>410</td>
</tr>
<tr>
<td>Noodles</td>
<td>1,812</td>
<td>2,140</td>
<td>-</td>
</tr>
<tr>
<td>Biscuit/conf.</td>
<td>800</td>
<td>246</td>
<td>-</td>
</tr>
<tr>
<td>Baked goods</td>
<td>2,399</td>
<td>74</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>320</td>
<td>-</td>
<td>410</td>
</tr>
</tbody>
</table>

Source: Aptindo 2015
SMALL MEDIUM ENTERPRISE (SME) BAKERY

- Mixers
### Hard Red Spring vs. CWRS Farinograph

<table>
<thead>
<tr>
<th></th>
<th>Low Pro</th>
<th>Med Pro</th>
<th>High Pro</th>
<th>2019 Avg</th>
<th>2018 Avg</th>
<th>5-Year Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Time (min)</td>
<td>7.0</td>
<td>8.2</td>
<td>9.3</td>
<td><strong>8.5</strong></td>
<td>8.2</td>
<td>7.6</td>
</tr>
<tr>
<td>Stability (min)</td>
<td>8.8</td>
<td>9.7</td>
<td>10.5</td>
<td><strong>9.9</strong></td>
<td>10.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Absorption (%)</td>
<td>62.0</td>
<td>63.3</td>
<td>64.3</td>
<td><strong>63.6</strong></td>
<td>65.2</td>
<td>63.4</td>
</tr>
</tbody>
</table>

### CWRS

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flour protein, % (14% mb)</td>
<td>13.8</td>
<td>13.6</td>
</tr>
<tr>
<td>Absorption, %</td>
<td>71</td>
<td>70</td>
</tr>
<tr>
<td>Mixing time, min</td>
<td>6.7</td>
<td>6.1</td>
</tr>
<tr>
<td>Dough handling properties</td>
<td>Strong</td>
<td>Very Strong</td>
</tr>
</tbody>
</table>
FLOUR MILLS INDUSTRY LOCATION
PRE DEREGULATION 1970-98 – 5 FLOUR MILLS

- Bogasari FM – Jakarta
- Sriboga FM – Semarang
- Eastern Pearl FM – Makassar
- Bogasari FM – Surabaya
- Panganmas FM – Cilacap
INDONESIAN FLOUR MILLS LOCATION - 2019 (28 Factories)

Total Cap: +/- 11.8 million MT/year Centralized in Java
## Philippine Wheat Foods Use

<table>
<thead>
<tr>
<th></th>
<th>% of total use</th>
<th>1,000 MT (wheat equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakery products*</td>
<td>50%</td>
<td>1,400</td>
</tr>
<tr>
<td>Noodles</td>
<td>20%</td>
<td>550</td>
</tr>
<tr>
<td>Cookies &amp; Crackers</td>
<td>20%</td>
<td>550</td>
</tr>
<tr>
<td>Pasta</td>
<td>4%</td>
<td>100</td>
</tr>
<tr>
<td>Others</td>
<td>6%</td>
<td>160</td>
</tr>
</tbody>
</table>

### *Bakery products detail*

<table>
<thead>
<tr>
<th></th>
<th>% of bakery segment</th>
<th>1,000 MT (wheat equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan de Sal and derivatives</td>
<td>35%</td>
<td>500</td>
</tr>
<tr>
<td>Loaf bread</td>
<td>30%</td>
<td>400</td>
</tr>
<tr>
<td>Buns and rolls</td>
<td>20%</td>
<td>250</td>
</tr>
<tr>
<td>Cakes and Pastries</td>
<td>10%</td>
<td>150</td>
</tr>
<tr>
<td>Chinese steamed buns (sio pao)</td>
<td>5%</td>
<td>70</td>
</tr>
</tbody>
</table>
US wheat exports to the Philippines


SRW
HRW
SW
HRS

53 mbu
111 mbu
109%

#5
#4
#3

thousand metric tons

U.S. AVERAGE FARM PRICES
Hard Red Spring Wheat

Per Ton

$350
$300
$250
$200
$150
$100

12 Jun 13 Jun 14 Jun 15 Jun 16 Jun 17 Jun 18 Jun 19 Jun

Per Bushel

$9.52
$8.16
$6.80
$5.44
$4.08
$2.72

Source: USDA, Annual Price Summary
Proving value to the consumer

Innovation/differentiation
Margin and efficiency
Peace of mind
“Quality doesn’t cost - it pays”
US wheat exports to North and SE Asia