Why Are Ripening Programs Important?

Dennis Kihlstadius
Produce Technical Services

Two Categories of Fruit

**Climacteric**
- When harvested mature, will continue to ripen
- Have an internal starch reserve that can convert to sugar with ethylene (NOT in pears, I will explain)

**Non-Climacteric**
- Does not ripen further after harvest
- Does not get any sweeter from the use of ethylene. It may “de-green” with ethylene use
Climacteric

- Bananas
- Avocados
- Tomatoes
- Pears
- Mangos
- Kiwi
- Papaya

Non-Climacteric

- Watermelon
- Citrus
- Grapes
- Cherries
- Pineapple
- Berries
Retailers Sell Ripe Bananas, So Why Not Other Fruit? Are They Afraid?

The Number One Reason Customers Shop A Particular Store Is Fresh Produce
Retail Benefits - Conditioned Pears

- Increased sales

2012 Conditioned Pear Test

Source: Nielsen Perishables Group

19.5% increase
Retail Benefits - Conditioned Pears

• Consumer preference

Consumers Don’t Buy Pears Due To Their Flavor

What is the primary reason why you don’t buy pears?

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flavor</td>
<td>48%</td>
</tr>
<tr>
<td>Price</td>
<td>25%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
<tr>
<td>Appearance</td>
<td>10%</td>
</tr>
<tr>
<td>Ripeness</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Consumers Buy Pears For Their Flavor

What is the primary reason why you buy pears?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flavor</td>
<td>41%</td>
</tr>
<tr>
<td>Appearance</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td>12%</td>
</tr>
<tr>
<td>Sweet</td>
<td>8%</td>
</tr>
<tr>
<td>Juicy</td>
<td>8%</td>
</tr>
<tr>
<td>Recipe called for it</td>
<td>4%</td>
</tr>
<tr>
<td>Attractive</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Customers Can Be Confused About Pear Ripening

**Simple PEAR Ripening**

- **Bartlett pears** change color as they ripen.
- **Anjou and other varieties** show little color change as they ripen.

*Check the Neck for Ripeness*:

- Soften necks to ease skin separation.
- Neck should be flushed and even.
- Skin should separate easily.
- Neck should be firm and dry.
- Neck should be greened.
- Neck should be firm and dry.
- Neck should be greened.
Consumers Prefer Ripe Pears

• Over 60% surveyed agree pears should be ripe when purchased

• Consumers are willing to pay more for conditioned pears

Retail Benefits - Conditioned Pears

• Consumers don’t want to wait
90% of Shoppers want pears to ripen within one to four days of purchase - Only 10% are willing to wait 5 to 6 days.

Retail Benefits - Conditioned Pears

- Better Eating Experience
Ripening Unlocks Flavor

Conditioned Pears – Retail Benefits

- Point of differentiation at retail
Properly Implemented Ripening Programs

- Promote repeat pear purchases
- Cut store level shrink
- Increase customer satisfaction

Ripe Programs

Are not difficult to implement:
- Commitment
- Communication
- Equipment
- Education
Commitment

Total store chain commitment:
• Buyer
• Merchandisers
• Quality Control
• Produce Clerk

Communication

• How the retailer sources fruit
• How the fruit is handled
• Warehouse
• Merchandisers
• Produce Clerk
Equipment

Is there:
• Proper equipment in house?
• Penetrometer with an 8 mm tip, not the 10 mm tip used for apples?
• Ripening rooms?
• Ability to cool the fruit?

Ripe Program

• Retailers decide who will implement the ethylene treatment

• Recipe for ethylene treatment depends on time of year
  – Harvest
  – Cold storage
  – Controlled atmosphere storage
Where Will The Ripening Take Place?

Shipper/Wholesaler  Retail Warehouse

In-House Program

- Check the temperature and pressure of fruit upon arrival
Mobile Ripening System

The Ripening Room Does Not Need To Be Fancy…Just Efficient
With A Source Of Ethylene, Ripening Will Happen Under The Right Temperatures
Catalytic Generator

Education

• Educate each level in their role and how it interacts with the ripe program

• Bring in outside expertise

• Understand what your goals are for the program
Education

Sources:
- Internet
- Commodity groups
- Consultants
- Seminars

Pear Handling Manual
**Commonly Conditioned Pear Varieties**

Red Bartlett  Yellow Bartlett  Red Anjou  Green Anjou

**Ripe Program Key Points**

- Absorption of ethylene
- Pressure change may not be noticeable immediately after conditioning
- Ethylene is the key for ripening
- Ethylene also enhances edibility and flavor profile of the pear
Questions?

www.usapears.org
Dennis Kihlstadius
(310) 567-8445
Conditioned Pears – Retail Benefits

• Consistent ripening within box
Harvest Determination

- Brix level of fruit upon harvest
- Pressure of fruit upon harvest
- Weather conditions
- Size of the fruit

Cold Storage

- How long has fruit been in storage
- Pressure of the fruit
- Physical condition of the storage facility
Controlled Atmosphere

• Efficiency of facility
• Length of time in controlled atmosphere
• Time of year
• Pressure of fruit
• SmartFresh application (1-MCP)

Ripe Program: Retail Store Level

• Store pears in cold box upon arrival
• Display pears on non-refrigerated racks
• Rotate pears - new pears should go under the old pears
• Ripening should happen at store level