Marketing Greenhouse Products

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Agenda

- Economic Terms
- Demand
- Pricing Strategies
- Product Differentiation
- Behavioral Pricing
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Price and Equilibrium Price

• Price
  – Price is derived by the interaction between supply and demand.
  – It depends on both the supply available and the demand of consumers.

• Equilibrium Price
  – Sometimes referred to as “market clearing price”.
  – The agreed upon price when an exchange occurs.
  – It is not necessarily a fair price.
Supply and Demand Curve

- Price: P1
- Quantity: Q1
- Supply
- Demand
Movement Along Demand Curve

![Graph showing the movement along the demand curve with price P1, P2, quantity Q1, and Q2. Supply 1 and Supply 2 intersect with the demand curve at different points, indicating a shift in quantity demanded at a given price.]
Movement Along the Supply Curve

- Demand 1
- Demand 2
- Supply

Price:
- P1
- P2

Quantity:
- Q1
- Q2
Elasticity

• Price Elasticity of Demand
  – The measure of sensitivity of one variable to another.
  – The effect price changes have on demand.
• Demand is said to be less elastic when ..
  – There are few or no substitutes or competitors.
  – Buyers do not readily notice higher prices.
  – Buyers are slow to change buying habits and search for lower prices.
  – Buyers think higher prices are justified by quality improvements or inflation.
Price Elasticity

• Price elastic (sensitive) items – customers shop for price.
  ➢ Slight change in price results in large change in quantity demanded.
  ➢ If prices are raised, competitors step in to fill the void.

• Price inelastic (insensitive) items – purchase governed by other factors.
  ➢ Quantity demanded changes only slightly when prices change.
Demand

• Determining demand for your products will take some research.
  – Trade Magazines
  – Government Statistics
  – Private Marketing Research Firms
  – Internet Searches
  – The Competition
  – Your Customers!
Demand Trends

• During prosperous times, the demand for ornamental plants tends to grow.
• During more difficult times, in some markets, the demand for vegetable bedding plants grows.
• In either situation, it is important to know what your customers are looking for.
Demand Statistics

Number of Growers and Value of Sales
Floriculture Crops 1996 - 2002

<table>
<thead>
<tr>
<th>Year</th>
<th>Growers (000)</th>
<th>$ Billion</th>
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<tbody>
<tr>
<td>1996</td>
<td>10.1</td>
<td>1.5</td>
</tr>
<tr>
<td>1997</td>
<td>12.7</td>
<td>1.7</td>
</tr>
<tr>
<td>1998</td>
<td>12.3</td>
<td>1.9</td>
</tr>
<tr>
<td>1999</td>
<td>11.6</td>
<td>2.2</td>
</tr>
<tr>
<td>2000</td>
<td>11.6</td>
<td>2.5</td>
</tr>
<tr>
<td>2001</td>
<td>11.1</td>
<td>2.8</td>
</tr>
<tr>
<td>2002</td>
<td>10.2</td>
<td>3.0</td>
</tr>
</tbody>
</table>

For operations with $10,000+ sales

USDA-NASS
April 2003
Growth

- 10% per year in the 1980’s
- 5% per year in the 1990’s
- 2% in 2002
Demand Statistics

- **Annual Flats**: 37%
- **Annual Pots**: 20%
- **Hanging Baskets**: 10%
- **Herbaceous Perennials**: 6%
- **Vegetables**: 27%
U.S. Consumption

◆ 1\textsuperscript{st} in consumption of outdoor landscaping plants

◆ 12\textsuperscript{th} in consumption of indoor plants and flowers
## U.S. Consumption

<table>
<thead>
<tr>
<th>Crop</th>
<th>Billion dollars*</th>
<th>Per Household</th>
<th>Per Capita</th>
<th>Import Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuts</td>
<td>1.0</td>
<td>$ 9</td>
<td>$ 3</td>
<td>60%</td>
</tr>
<tr>
<td>Other</td>
<td>4.5</td>
<td>$ 42</td>
<td>$ 16</td>
<td>8%</td>
</tr>
<tr>
<td>Sub-total</td>
<td>5.5</td>
<td>$ 51</td>
<td>$ 20</td>
<td>17%</td>
</tr>
<tr>
<td>Nursery</td>
<td>8.7</td>
<td>$ 81</td>
<td>$ 30</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>14.2</td>
<td>$133</td>
<td>$ 50</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Based on wholesale value of sales and net imports.

Product Life Cycle

- **Introduction**
- **Growth**
- **Maturity**
- **Decline**

**Sales**

**Profits**

**Dollars**

**Time**
Introductory stage pricing strategies: low price (entices more consumers, lowers risk) or skimming (high price to reap high margin).

Growth stage pricing strategies: similar

Mature stage pricing strategies: competition (numbers and size) forces prices down. Key factor is differentiation.

Decline stage: Cut your losses!
Pricing Strategy

1. Know your production and marketing costs so that you can establish a price “floor”.

2. Equally important is knowing what your customers want and how much they are reasonably willing to pay (price ceiling).

3. Push the pencil on paper (or spreadsheet) to determine sales and profit goals and develop a strategy to meet them.
COST ACCOUNTING OBJECTIVES

• Identify items with low cost = Comparative Advantage
• Identify items with high cost - Reduce them!
• Determine the price floor.
Costs Vary From Grower to Grower
Because of:

• Size of operation
• Location
• Managerial practices
• Time of year
• Market channel
• Volume of production
Costs Vary From Grower to Grower

Because

- Other options for greenhouse space
- Size of permanent crew
- Availability of part-time labor
- Type of heating system
- Greenhouse layout
- How quickly you pay suppliers
Everyone’s Costs are Different!

Calculate Your Costs for Your Firm!
Tools for Cost Accounting

- Income Statement
- Spreadsheet
Overhead Costs

- Also called Fixed Costs
- Total overhead costs remain constant as production increases
- Costs per unit decrease as more units are produced
Items from Income Statement
(20,000 square foot double poly)

- Sales $182,610
- Salaries and Wages
  - Overhead salaries (including benefits) $37,384
  - General wages (including benefits) $12,111
<table>
<thead>
<tr>
<th>Utilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating fuel</td>
<td>$ 20,000</td>
</tr>
<tr>
<td>Electricity</td>
<td>$ 3,350</td>
</tr>
<tr>
<td>Telephone</td>
<td>$ 1,480</td>
</tr>
<tr>
<td>Overhead</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>• Depreciation</td>
<td>$ 16,750</td>
</tr>
<tr>
<td>• Interest</td>
<td>$ 16,800</td>
</tr>
<tr>
<td>• Repairs</td>
<td>$ 3,725</td>
</tr>
<tr>
<td>• Taxes</td>
<td>$ 550</td>
</tr>
<tr>
<td>• Insurance</td>
<td>$ 3,240</td>
</tr>
<tr>
<td>• Advertising</td>
<td>$ 485</td>
</tr>
<tr>
<td>• Dues and subscriptions</td>
<td>$ 100</td>
</tr>
<tr>
<td>Overhead (continued)</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>• Travel and entertainment $345</td>
<td></td>
</tr>
<tr>
<td>• Office expense $314</td>
<td></td>
</tr>
<tr>
<td>• Professional fees $550</td>
<td></td>
</tr>
<tr>
<td>• Truck expense &amp; eq. rental $7,150</td>
<td></td>
</tr>
<tr>
<td>• Land rental $2,000</td>
<td></td>
</tr>
<tr>
<td>• Contributions $18</td>
<td></td>
</tr>
<tr>
<td>• Bad debts $925</td>
<td></td>
</tr>
<tr>
<td>• Miscellaneous $550</td>
<td></td>
</tr>
</tbody>
</table>
Space Utilization

- Greenhouse area: 20,000 (ft²)
- Space used for production: 75%
- Weeks in operation: 29 weeks
Variable Costs

- Variable Costs
- Also called Direct Costs
- Total variable costs increase as production increases
- Cost per unit is constant
Variable Costs

• Material costs
  – Flats
  – Inserts
  – Seedlings
  – Media
  – Labels
  – Chemicals

• Production labor
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of units started</td>
<td>5,000</td>
</tr>
<tr>
<td>Square feet per unit</td>
<td>1.64</td>
</tr>
<tr>
<td>Weeks to grow</td>
<td>8</td>
</tr>
<tr>
<td>Percent sold</td>
<td>98%</td>
</tr>
<tr>
<td>Sales price</td>
<td>$6.50</td>
</tr>
</tbody>
</table>
## Variable Costs of Petunia Production

<table>
<thead>
<tr>
<th>Cost</th>
<th>Crop</th>
<th>Flat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>$3,385</td>
<td>$0.68</td>
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<tr>
<td>Seeds</td>
<td>1,320</td>
<td>0.41</td>
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<tr>
<td>Containers</td>
<td>2,900</td>
<td>0.68</td>
</tr>
<tr>
<td>Growing media</td>
<td>2,750</td>
<td>0.25</td>
</tr>
<tr>
<td>Fertilizer &amp; Chemicals</td>
<td>155</td>
<td>0.03</td>
</tr>
<tr>
<td>Tags</td>
<td>823</td>
<td>0.16</td>
</tr>
</tbody>
</table>
Steps to determine costs per unit

• Enter Direct Costs
• Program will allocate these to each crop
• Other costs will be treated as Overhead Costs
• Overhead cost is $0.267 per sq. ft.-wk.
<table>
<thead>
<tr>
<th>Item</th>
<th>Petunia</th>
<th>Marigold</th>
<th>Geranium</th>
<th>Geranium</th>
<th>Poinsettias</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flats</td>
<td>Flats</td>
<td>Flats</td>
<td>4-inch</td>
<td>6-inch</td>
</tr>
<tr>
<td>No. of units</td>
<td>5,000</td>
<td>3,000</td>
<td>5,000</td>
<td>10,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Sq. ft./unit</td>
<td>1.64</td>
<td>1.64</td>
<td>1.64</td>
<td>0.11</td>
<td>1.00</td>
</tr>
<tr>
<td>Weeks</td>
<td>8</td>
<td>6</td>
<td>13</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>% sold</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Price</td>
<td>$6.50</td>
<td>$6.50</td>
<td>$10.00</td>
<td>$1.20</td>
<td>$5.00</td>
</tr>
<tr>
<td>Item</td>
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<td>-------------</td>
</tr>
<tr>
<td></td>
<td>Flats</td>
<td>Flats</td>
<td>Flats</td>
<td>4-inch</td>
<td>6-inch</td>
</tr>
<tr>
<td>Sales</td>
<td>$31,850</td>
<td>$19,110</td>
<td>$49,000</td>
<td>$11,400</td>
<td>$71,250</td>
</tr>
<tr>
<td>Profit/crop</td>
<td>$2,998</td>
<td>$4,430</td>
<td>$2,519</td>
<td>$4,790</td>
<td>($2,605)</td>
</tr>
<tr>
<td>Profit/unit</td>
<td>$0.61</td>
<td>$1.51</td>
<td>$0.51</td>
<td>$0.50</td>
<td>($0.18)</td>
</tr>
<tr>
<td>Profit/sq.ft.</td>
<td>$0.05</td>
<td>$0.15</td>
<td>$0.02</td>
<td>$0.73</td>
<td>($0.01)</td>
</tr>
<tr>
<td>Sq.ft.-wk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>$6.50</td>
<td>$6.50</td>
<td>$10.00</td>
<td>$1.20</td>
<td>$5.00</td>
</tr>
<tr>
<td>Item</td>
<td>Petunia Flats</td>
<td>Marigold Flats</td>
<td>Geranium Flats</td>
<td>Geranium 4-inch</td>
<td>Geranium 6-inch</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
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<td>$19,110</td>
<td>$49,000</td>
<td>$11,400</td>
<td></td>
</tr>
<tr>
<td>Profit/crop</td>
<td>($15,923)</td>
<td>($4,085)</td>
<td>($28,227)</td>
<td>$2,887</td>
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<tr>
<td>Profit/unit</td>
<td>($3.25)</td>
<td>($1.39)</td>
<td>($5.76)</td>
<td>$0.30</td>
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<tr>
<td>Profit/sq.ft.</td>
<td>($0.24)</td>
<td>($0.14)</td>
<td>($0.26)</td>
<td>$0.73</td>
<td></td>
</tr>
<tr>
<td>Sq.ft.-wk</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>$6.50</td>
<td>$6.50</td>
<td>$10.00</td>
<td>$1.20</td>
<td></td>
</tr>
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</table>
Costs:
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- Are grower specific.
Costs:

- Are grower specific.
- Vary with production and marketing decisions.
Costs:

- Are grower specific.
- Vary with production and marketing decisions.
- Vary with:
  - Market conditions
  - Labor supply
  - Age & condition of greenhouse
  - Managerial skill.
Costs:

- Are grower specific.
- Vary with production and marketing decisions.
- Vary with:
  - Market conditions
  - Labor supply
  - Age & condition of greenhouse
  - Managerial skill.
- Should be calculated for your firm!
Pricing Strategies

What is your objective?

- Survival
- Maximum current profit
- Maximum current revenue
- Maximum sales growth
- Maximum market skimming
- Product quality leadership
Product Differentiation

- Quality image.
- Name cultivars.
- Follow changes in consumer tastes and preferences.
- Add value and let the customers know.
Product Differentiation

Add value by adding service

- Credit
- Delivery
- Special Wrappings
- Special Containers
- Cards
- Care Tags
- Return Privileges
- Warranties
- Brand Names
Percent of managers indicating they were well-informed regarding factors affecting pricing decisions

- Consumer willingness to pay: 21%
- Consumer response to price changes: 34%
- Value of product to consumer: 71%
- Price of competing products: 75%
- Fixed costs: 81%
- Variable costs: 84%

Value Pricing and the Economic Perspective

Objective value (OV)

Perceived value (PV)

Product price (P)

Cost of goods sold (COGS)

Marketing efforts

Prices of substitutes

Consumer’s incentive to purchase (PV-P)

Firm’s incentive to sell (P-COGS)

You are lying on the beach on a hot day. All you have to drink is water. For the past hour, you have been thinking about how much you would enjoy a nice ice-cold bottle of your favorite beverage. A friend gets up to make a phone call and offers to bring back a bottle of your favorite beverage from the only nearby place where beverages are sold – a small run-down grocery store. He says that the beverage might be expensive and asks how much you are willing to spend. He says he will not buy the beverage if it costs more than the price you state. What price do you tell your friend?
You are lying on the beach on a hot day. All you have to drink is ice water. For the past hour, you have been thinking about how much you would enjoy a nice cold bottle of your favorite beverage. A friend gets up to make a phone call and offers to bring back a bottle of your favorite beverage from the only nearby place where beer is sold – a fancy resort hotel. He says that the beverage might be expensive and asks how much you are willing to spend. He says he will not buy the beverage if it costs more than the price you state. What price do you tell your friend?
Scenario #3

You set off to buy a Sony Walkman at what you believe to be the cheapest store in the area. Upon arriving, you find that the Walkman you want costs $29, a price consistent with your prior expectations. As you are about to make the purchase, a reliable friend tells you that the very same Walkman is selling for $10 less at a store approximately 10 minutes away. Do you go to the other store to buy the Walkman?
Scenario #4

You set off to buy a Sony Camcorder at what you believe to be the cheapest store in the area. Upon arriving, you find that the Camcorder you want costs $495, a price consistent with your prior expectations. As you are about to make the purchase, a reliable friend tells you that the very same Camcorder is selling for $10 less at a store approximately 10 minutes away. Do you go to the other store to buy the Camcorder?
Willingness to Pay is Impacted by Relative Incentives

In determining willingness to pay, a consumer will consider both the absolute “economic utility” from the transaction [i.e., perceived value – actual price] and the relative incentive to enter the transaction [i.e., (perceived value – actual price)/(actual price)].
Scenario #5

Your favorite sports team has made the playoffs. Its first-round playoff series is a best-of-seven series with Games 1, 2, 5 and 7 played on your team’s home field. General admission tickets had been priced at $20 during the regular season. The team decides to raise general admission prices to $40 for these four playoff games. Is this price increase fair or unfair?
Scenario #6

Your favorite sports team has made the playoffs. Its first-round playoff series is a best-of-seven series with Games 1, 2, 5, and 7 played on your team’s home field. General admission tickets had been priced at $20 during the regular season. General admission tickets were also priced at $20 for Games 1 and 2 of the playoffs. After Game 2, the team decided to raise prices to $40 for Games 5 and 7. Is this price increase fair or unfair?
In determining willingness to pay, a consumer will consider “economic utility” from the transaction [i.e., perceived value – actual price] and the consistency between the actual price and a salient reference price [i.e., actual price – reference price].
A grocery store has no peanut butter in stock, but is about to receive a new shipment. Prior to delivery, the owner finds out that the wholesale price of peanut butter has increased 20% and will affect this new shipment. The owner decides to increase the price of the new peanut butter by 20%. Is this retailer’s actions fair or unfair?
A grocery store has a one-week supply of peanut butter in stock, and is due to receive a new shipment in the near future. Prior to delivery, the owner finds out that the wholesale price of peanut butter has increased 20% and will affect this new shipment. The owner decides to immediately increase the shelf price on his current stock by 20%. Is this retailer’s actions fair or unfair?
Willingness to Pay is Impacted by Cost of Goods Sold

In determining willingness to pay, a consumer will consider their own “economic utility” from the transaction [i.e., perceived value – actual price] and that of the firm [i.e., actual price – cost of goods sold].
In 1996, baseball’s Seattle Mariners made it to the American League playoffs. During the season, general admission to a Mariners game cost $15. For the playoffs, the Mariners raised the price of general admission tickets to $20. Is this fair or unfair?
Scenario #10

A hardware store had been selling snow shovels for $15. The morning after a large snowstorm, the store raises the price of its snow shovels to $20. Is this fair or unfair?
Perceptions of Fairness Vary Across Product Categories

In determining willingness to pay, the degree to which a consumer will rely on their own “economic utility” from the transaction [i.e., perceived value – actual price] will vary across product categories [e.g. discretionary vs. necessity; luxury vs. utilitarian].
Six months ago you saw an ad for a theater event and called to reserve a $50 ticket. Yesterday, you went to the box office and paid $50 in cash for your ticket, which is non-refundable. This morning, you woke up with the flu. Will you still go to the theater or stay home?
Six months ago you saw an ad for a theater event and called to reserve a $50 ticket. Not wanting to take a chance on the event being sold out, you went immediately to the box office and paid $50 in cash for your ticket, which is non-refundable. Six months later -- this morning -- you woke up with the flu. Will you still go to the theater or stay home?
Behavioral Update #5

Consumption closely tracks the timing of payments by customers.

In determining willingness to pay, the degree to which a consumer will rely on their own "economic utility" from the transaction [i.e., perceived value – actual price] will closely track the timing of payments by customers.
Scenario #13

It’s early spring in Colorado, and you are on a four-day ski vacation. The day you arrived, you purchased four 1-day ski-lift tickets for $40 each. It’s now the morning of the last day. You’ve had three excellent days of skiing, but rain hit the area last night, making a mess of the slopes. A friend suggests that rather than skiing, you take it easy and leave early to beat the traffic home. What do you do?
Scenario #14

It’s early spring in Colorado, and you are on a four-day ski vacation. The day you arrived, you purchased 1 ski-lift ticket for $160 that is good for all four days. It’s now the morning of the last day. You’ve had three excellent days of skiing, but rain hit the area last night, making a mess of the slopes. A friend suggests that rather than skiing, you take it easy and leave early to beat the traffic home. What do you do?
Price bundling influences consumption.

In determining willingness to pay, the degree to which a consumer will rely on their own "economic utility" from the transaction [i.e., perceived value – actual price] is influenced by price bundling.
Strategy #1

Actively Manage Price Expectations.

- Establish credible reference prices.
- Manage product price trends.
- Encourage favorable comparisons.
- Avoid unfavorable comparison through product differentiation.
Strategy #2

Actively Manage Perceptions of Cost of Goods Sold.

• Focus attention on fully-loaded cost of goods sold.
• Bundle products to obscure cost of goods sold.
• Focus attention on consumer value.
Combining the Economic and Behavioral Drivers of Willingness to Pay

\[
\text{Consumer's Willingness to Pay} = \text{Economic Utility of the Transaction} + \text{Fairness of the Transaction}
\]

- Perceived value – actual price
- Relative incentives to enter transaction
- Consistency between actual & reference price
- Firm’s economic utility
- Product categories
- Timing of payments
- Price bundling

Responses to price undercutting.

Sharpen your marketing skills.
Buy competitors product and resell.
Match the price in the short run.
Consider the nature of your product and differentiate.
Focus on cost control.

http://aesop.rutgers.edu/~farmmgmt
Questions?

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