Value Addition in Floriculture

Prof. Dr. Muhammad Aslam Khan
Institute of Horti. Sciences,
University of Agriculture,
Faisalabad. Pakistan
Getting More for What You Already Have
What is value addition in Floriculture?

Value added Floriculture is a process of increasing the economic value and consumer appeal of an floricultural commodity.

Increasing the value and appeal of an floriculture product or commodity through changes in genetics, processing or diversification.

Requires more time, labor and skill than typically seen in farming operations.
For value-added products to be successful, it is recommended that Floricultural producers carefully identify goods that utilize local resources and that fulfill gap in the market.

Adding value also adds cost to production, but careful planning and test marketing can significantly increase the net cash return of a small-scale Floricultural enterprise.
A Value-added marketing approach should be adopted to extend the spread of the market.

Value-addition ensures high premium to the grower while providing more acceptable quality products for the domestic and export market.

The value-addition for marketing flowers includes adoption of post-harvest technology and improved logistics.
• One of the most important aspects of marketing is to give your customers a reason to buy your products.
Why use value addition in Floriculture?

- Unstable prices for raw commodities
- Federal farm policies
- Changing consumer preferences
- Make more money by cutting out the middleman
Concerns with value addition in Floriculture

- Marketing is critical
  - If you can’t sell it, you won’t make money
- Legal and business restrictions can be complicating
  - Do your homework before jumping off the deep end
- Consult the experts
Challenges

• Varieties as per market preference
• Technology for Value Added Products
• Knowledge of Standards
• Synergy in the plan and approach of agencies at various levels in different functional areas viz. research, extension, finance, quality assurance and certification.
Why Processing

• Development & growth of agriculture is critically dependant on value addition & processing.

• Increased export will motivate the farmer to achieve better productivity besides inducing entrepreneurship.
Opportunities in Global Market

- Potential Products
- Emerging Niche Markets
- Key Issues
Adding Value

Who adds the value to goods?
- Grower?
- Processor?
- Retailer?

The one that adds the value generally reaps the benefit.
Ways to add value to your goods

- Process the raw material
- Pre-cut, wrap and package
- Take a unique approach
- Label your product
- Distinct product appearance
- Increase shelf life
- Provide recipes/cookbook
- Gift baskets or multi-pack
- Build reputation, relationship
innovative packaging
Rose Project
Institute of Horticultural Sciences
Innovative catalogs
Areas of value-added Floriculture

- Essential oil extraction from flowers
- Cut flower production for occasions/Flower forcing
  - Fresh
  - Dried
- Live plants/Potted plants
- Foliage and other parts of plants
  - Fresh
  - Dried
  - Potpourri
Essential oil Crops

- Rose
- Jasmine
- Tuberose
- Narcissus
- Murraya
- Marigold
- Calendula
Applications of Essential Oils

- Indigenous marketing.
- Export.
- Perfumery.
- Cosmetics.
- Essences.
- Fragrant commodities.
- Medicines.
World Production

The yearly production of rose blossoms is
- 6,000 tons in Turkey
- 3,000 tons in Bulgaria and
- 1,000 tons in Morocco
- 800 tons are used for the production of dried buds, and the production of concrete oil tends to decrease.
- Total production of rose oil is around 2,000 kg a year, and total production of concrete oil is around 6,000 kg a year. The price of rose products is on an upward trend. Today, rose oil is above $5000/kg, while rose absolute is around $15000/kg.
The major producers of rose essential oil are

- Bulgaria,
- Turkey,
- Morocco,
- France,
- Iran,
- China,
- USA,
- Egypt,
- India and Italy

The major consumers of rose essential oil are

- USA (40%),
- Western Europe (30%) and
- Japan (7%)
- Rest of World (23%)
Rose Products

1. Rose Petals (Fresh & Dry) of Fragrant Species
2. Commercial Rose Based Products
3. Rose cut Flowers
Commercial Rose Based Products

1. Rose Essential Oil
2. Rose Based Perfume Sprays
3. Rose Based Air Fresheners
4. Rose Water
5. Rose Jam (Gulqand)
6. Rose Cream
7. Rose Vaseline
8. Rose Mouthwash
Rose Species Used for Essential Oil Extraction

*Rosa centifolia*
*Rosa damascena*
*Rosa bourboniana*
*Gruss-an- Telpliz*
Rosa centifolia
Rosa centifolia
Rosa centifolia
Rosa Gruss_an_Telpliz
Rosa damascena
Rosa bourboniana
<table>
<thead>
<tr>
<th>Rosa species</th>
<th>Flowering duration (days)</th>
<th>No. of flowers/plant/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosa centifolia</td>
<td>308</td>
<td>500-700</td>
</tr>
<tr>
<td>Rosa damascena</td>
<td>30-35</td>
<td>70</td>
</tr>
<tr>
<td>Rosa bourboniana</td>
<td>60</td>
<td>82</td>
</tr>
<tr>
<td>Gruss-an- Telpliz</td>
<td>300</td>
<td>320</td>
</tr>
</tbody>
</table>
Methods Used for Oil Extraction:

- Solvent Extraction Method
- Steam Distillation Method
- SCF C0₂ Extraction Method
SOLVENT EXTRACTION
Steam Distillation

Vaporised water and essential oil

Vapour is cooled, steam condenses into water and the essential oil which do not mix

Essential oil

Flower water

HEAT
# Yield of Essential Oil of Rosa Species

<table>
<thead>
<tr>
<th>Rosa sps.</th>
<th>Flower used (Kg)</th>
<th>Solvent extraction (g)</th>
<th>SCF Extraction (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rosa centifolia</em></td>
<td>20 (20,000g)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><em>Rosa damascena</em></td>
<td>20 (20,000g)</td>
<td>3.9</td>
<td>4.5</td>
</tr>
<tr>
<td><em>Rosa bourboniana</em></td>
<td>20 (20,000g)</td>
<td>1.9</td>
<td>2</td>
</tr>
<tr>
<td><em>Gruss-an- Telpliz</em></td>
<td>20 (20,000g)</td>
<td>1.2</td>
<td>1.8</td>
</tr>
</tbody>
</table>
Jasmine – Value Addition
Calendula – Value Addition
Marigold – Value Addition
Murraya
Mint Oil
Narcissus
Rose Potpourri

The art of preserving the beauty, color and fragrance of roses can take any number of creative forms - from dried rose blossoms which are then used in wreaths or unusual table decorations to the creation of a rose potpourri.
Annual Profits Corresponding to Predominant Crops Grown in Pakistan

<table>
<thead>
<tr>
<th>Crops</th>
<th>Profits (x1000 Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>100</td>
</tr>
<tr>
<td>Cotton</td>
<td>100</td>
</tr>
<tr>
<td>Rice</td>
<td>100</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>100</td>
</tr>
<tr>
<td>Rose Petals</td>
<td>200</td>
</tr>
<tr>
<td>Rose Water</td>
<td>600</td>
</tr>
<tr>
<td>Rose Jam</td>
<td>300</td>
</tr>
<tr>
<td>Rose Oil</td>
<td>800</td>
</tr>
</tbody>
</table>
# High Value Non Traditional Crops

<table>
<thead>
<tr>
<th>Other High value crops</th>
<th>International Price/Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jasmine</td>
<td>$9,350</td>
</tr>
<tr>
<td>Tuberose</td>
<td>$7,450</td>
</tr>
<tr>
<td>Murraya</td>
<td>$7,000</td>
</tr>
<tr>
<td>Narcissus</td>
<td>$8,600</td>
</tr>
<tr>
<td>Citrus</td>
<td>$7,450</td>
</tr>
</tbody>
</table>
Thank You

Sense of Living