Biosolids Products, Markets & a Plan

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Apply Marketing & Management Principles

- Customer Based
  - Problem Solving/Benefits Driven
- Long-term Commitments & Investments
- Wide Range Strong Partnerships
- One or More Back-up Plans
Building a Marketing Plan & Sustaining a Biosolids Program

- Compost Production & Quality Control
- Market Research & Assessment
- Product Development & Innovation
- Promotion
- Education
- Sales & Distribution
Compost & Organics
Market Planning Resources

“Winning the Organics Game” Rod Tyler, 1996
- TEMPS: Testing; Education; Market research; Product development; Sales

“Compost Utilization in Horticultural Cropping Systems” Peter Stoffella & Brian Kahn, 2001

Market Research & Assessment Methodology

- Develop Product Marketing Goals
- Understand Drivers & conceptualize products
- Estimate applications, features, benefits
- Research market segments
  - Products; positioning; competition; issues
- Assess & rank markets
- Research & assess fail-safe backups
Establish Market Research Goals

- Sustainable, Reliable, Economical
  - Identify potential products & markets
  - Identify onsite/offsite manufacturing facilities
  - Develop flexible Plan- multiple markets - “diversity”
  - Beneficially reuse- maintain NBP & EMS
Feedstocks

Industry & Consumers Generate Virgin & Recyclable Materials

Manufacturing

Manufacturers Produce & Re-Manufacturers & Packagers Fine Tune Compost, Soil Amendments, & Fertilizer

Distribution Channels

Wholesalers, Brokers, Dealers & Retailers Deliver Products to Consumers

Consumers

Industry & Homeowners Buy Compost, Soil Amendments, & Fertilizer to Grow Food, Fiber, Timber, Lawn/Garden

Consumers & Industry Recycle Feedstocks

Collection & Transport
OCSD Case- Concepts for Markets & Products

- Cropping Markets
  - Class B Land Appl.
  - 4 Horticulture
  - 4 Agriculture
  - 2 Silviculture
  - Energy

- Non-Cropping Markets
  - 2 Energy
  - Erosion Control
  - 2 Landfilling
  - 2 Construction Matl.s
  - Dedicated Disposal
14 Market Research Criteria

- Segment Description & History
- Current Strength
- Current Size
- Future Size Est.
- Other Large Agencies
- Regulatory Restrictions
- Perceived Risk
- Public Perception
- Product Features
- Economics of Marketing
- Political Hurdles
- CEQA Issues
- Ease of Implementation
- Key Indicators
Profile - Horticulture Uses w/ Member Agencies for Greenscapes

- Public works, parks, and facilities maintenance
- Wholesale pricing
- Current & Future Market Size: 35,000 to 70,000 CY/Y
- 28 Dry Tons/Day or 14% of District’s needs
- Long-standing municipal use of compost & pellet products
- Many local agencies and private firms
- Important PR to use own products in local community

OCSD Member Cities and Agencies (green space)
Market Ranking Criteria List

1. Perceived benefits to OCSD/county
2. Market Size
3. Estimate of Future Market
4. Competitors In the Market & Potential Impacts
5. Current & Future Regulatory Restrictions
6. Perceived Market Risk
7. Public Perception of Product/Brand
8. Product Quantitative & Qualitative Limits & Preferences
9. Economics of Manufacturing & Marketing
10. Political Hurdles & Constraints
11. Ease of Implementation
12. History of Product Applications to this market
13. Geographic Range of Markets
14. Long-Term Sustainability
15. Meeting District’s Biosolids Policies
16. Influence Over Critical Control Points
17. Traffic & Delivery
18. Market Site Location
19. Potential for Nuisances including Noise & Dust
20. Potential for odor
## Market Ranking Process

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</thead>
<tbody>
<tr>
<td><strong>Existing Program Baseline</strong> - Non food chain cropping, Class B</td>
<td>Substantial &amp; Proven</td>
<td>Poor &amp; failing</td>
<td>31,000 DTPY 1(85 DTPD - 41%); 205,000 DTPY 2(56 DTPD - 274%)</td>
<td>Uncertain</td>
<td>Many; over 4,500 WTPD</td>
<td>Sever &amp; worsening</td>
<td>Very Risky</td>
<td>Strangely Negative</td>
<td>Poor farmer acceptance; prefer other types</td>
<td>Reasonable yet worsening</td>
<td>Severe &amp; worsening</td>
<td>General Order under litigation</td>
<td>Infeasible</td>
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<tr>
<td><strong>Horticulture - member agencies</strong></td>
<td>Substantial &amp; Proven</td>
<td>Good</td>
<td>5,100 DTPY 3(14 DTPD - 7%)</td>
<td>10,000 DTPY 4(28 DTPD - 14%)</td>
<td>None</td>
<td>Some what risky</td>
<td>Good</td>
<td>Normal</td>
<td>50 to $30 per ton revenue</td>
<td>Low</td>
<td>None</td>
<td>Feasible; demonstrations, sales mgt.</td>
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OCSD Situation

- 650 TPD growing 930 TPD @ 22% TS
- Current Market Blend
  - land application
  - Composting
  - alkaline stabilized products
- Crop land for animal feed
Market Research Results

- Overall SC compost marketplace 4,000 TPD; 1.5 Million TPY
  - yard material compost dominant
- Robust growth @ 4-5% per year
- New market opportunities
  - Expand existing retail & bulk horticulture
  - Ag crop to ethanol
  - Burn area revegetation & erosion control
  - Certified organic products
Top Six Markets

Retail Outlets

Nurseries and Ornamentals

Construction Materials

OCSD Member Cities and Agencies (open space)

Shade Tree Programs

Direct Energy Production
# Horticulture Market Niche Breakdown

<table>
<thead>
<tr>
<th>Ornamental Industry</th>
<th>Landscape Industry</th>
<th>Nursery Industry</th>
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<tbody>
<tr>
<td>Greenhouse cut flowers and plants</td>
<td>Landscape architects</td>
<td>Wholesale and retail</td>
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<tr>
<td>Perennial plants</td>
<td>Landscape contractors</td>
<td>Container plants</td>
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<tr>
<td>Fruit trees</td>
<td>Wholesaler’s soil amendments</td>
<td>Soil amendments</td>
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<tr>
<td>Ground covers</td>
<td>Retailer’s soil amendments</td>
<td>Mulches</td>
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<tr>
<td>Woody ornamentals</td>
<td>Producer’s soil amendments</td>
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<td>Sod production</td>
<td>Public sector users</td>
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<td></td>
<td>Parks Departments</td>
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<td></td>
<td>Transportation and Highway</td>
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<tr>
<td></td>
<td>Departments</td>
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<td>Public Works Departments</td>
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## Integration of Product Markets and Technologies

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<tr>
<th></th>
<th>Composting</th>
<th>Heat Drying</th>
<th>Organo-Mineral Fertilizer</th>
<th>Heat Treatment</th>
<th>Pyrolysis</th>
<th>Power Generation</th>
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<tbody>
<tr>
<td>Retail Outlets</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Nurseries &amp; Ornamentals</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td>Member Agencies (landscape)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td>Shade Tree Programs</td>
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<td>✓</td>
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<td>✓</td>
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<tr>
<td>Construction Materials</td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td>Energy Production</td>
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OCSD Strategy for Biosolids:

✓ Produce Less Biosolids
✓ Produce Higher Quality Biosolids Products
✓ Optimize Treatment Costs
✓ Diverse Management & Marketing Options
✓ Take care locally