Economic Research Priorities for the Food Industry

Optimizing the Research and Promotion Needs of Specialty Crops

A Case Study of the Florida Citrus Industry’s Response to Emerging Invasive Pests and Disease in an Environment of Slumping Demand

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Presentation Outline

Optimizing the Research and Promotion Needs of Specialty Crops

• Introduction and Summary
• Changing Circumstances: Hurricanes and Diseases
• Creating and Managing a BIG R&D Effort
• Economic Research Priority: Allocation of Resources
• Conclusions
Introduction and Summary

- Food producers are pressured to feed a growing world population
- Resources are scarce and sustainability is threatened
- Florida Citrus is engaged in a resource allocation experiment
- Understanding the optimal allocation will be an economic research priority in the future
Changing Circumstances: Hurricanes and Disease
Big Citrus Feeling the Heat before the Storms

- Production Issues
  - Canker Eradication
  - Low Prices
  - Water Quality Degradation
  - Immigration

- Consumption Issues
  - Low-Carb Diets
  - Brand Apathy
  - Retailer Consolidation
  - Generic Marketing Program Fatigue
Real Del-In OJ Price and Aggregate FL and SP OJ Production

[Chart showing the real Del-In OJ price and aggregate FL and SP OJ production from 1980-1981 to 2010-2011. The chart includes bars for Del-In production and a line for FL+SP production. The price axis is in dollars per 100 gallons ($/PS), and the production axis is in million SSE Gallon. The chart highlights a period labeled Pre-Hurricanes, indicating a significant change in the production pattern.]

Florida Orange Juice, Healthy, Pure & Simple.
Spread of Citrus Greening (HLB)
First Commercial Discoveries
Spread of Citrus Greening (HLB)
Three Years Later
Spread of Citrus Greening (HLB) Current Situation
Creating and Managing a BIG R&D Effort: The Florida Citrus Experiment
Historical Funding for Citrus Research in Florida (Million Dollars)
Recent History & Timeline

- Prior to 2006/07, FCPRAC/FDCAS funded $1.5-$2.0mm per year in projects

- In 2006-07, almost 100% was spent on Greening and Canker

- In 2007-08, State grant for $3.5, FCPRAC and FDOC match of $1.5 and $2.0, respectively.
  - Project review by FCPRAC
  - 100 projects, 50% IFAS, 40% ARS
Fall 2007
Need a Bigger Hammer!

- Industry starts a grass roots effort to convince FCC that a $20,000,000 research investment from 2008/09 Citrus Advertising Trust Fund, and other sources, is needed.
  - June 2007: Confirmed in 24 counties, 31 by October!
  - Jan 10, 2008: Evans’ Grove Death March. Researchers’ quote: “Exponential Mortality Rate”
  - Jan 16, 2008: FCC Resolution, ‘... expresses willingness to provide support ... with expectation of accountability and participation’.
  - Jan 28, 2008: FCIRCC’s Greening Research Task Force forms the Greening Research Oversight Committee to develop a comprehensive HLB Research Management Plan.
Putting a Plan Together

Jan 2008: Peirce’s Disease Model
  - Findings: Coordination, Consolidation, Flexibility
  - Develop Ongoing Evaluation Framework

Jan/Feb 2008: Consultant Search
  - Technology Innovation Group (TIG)
  - Boston Consulting Group (BCG)

Feb 11, 2008: Met with National Academies of Sciences and USDA/ARS
  - Suggest formation of an Expert Panel (NAS/NRC) and SWAT-Team (ARS).

April 2008: Expert Panel and SWAT Teams meet
Greening/Canker Research Management and Commercialization Plan

March 10, 2008
Greening and Canker Research Management Plan

Objectives:

Urgently find solutions to production problems

- Specifically Canker and Greening, but understanding other concerns are looming

Provide accountability and responsibility

- Ensure research spending is as EFFICIENT and EFFECTIVE as possible – get Professional Help – Maintain Grower Control

Communicate and coordinate activities to stakeholders

- Provide information and process that will allow stakeholders to contribute and participate effectively, and benefit from discoveries
Citrus Research and Development Foundation

- 13-member Board; Appointed by FDOC, FCM, FDACS, and UF/IFAS
- Professionally Staffed and Managed
- Administration and Research is funded by growers
- Uses a 3rd party Scientific Advisory Panel
- “Sunshine Law” compliant
- Positioned to commercialize discoveries
Paradigm Shift for Researchers

**Stakeholder Controlled Innovation**

- Stakeholders involved in patenting process
- Stakeholders involved in licensing process
- Stakeholders share in royalties, diminish pay-twice concerns
- Stakeholders capture most benefits

State Agency vs Federal Government (Bayh-Dole Act of 1980)
State Agency vs Federal Government
Bayh-Dole Act of 1980

- Bayh-Dole allows universities to benefit from commercialization of innovation discovered with Federal funds
- Universities created TTOs
- State, or other public funding treated similar
- Example case: CIRM as an innovation Lab
CRDF Negotiated Solution

- Equitable arrangement for both parties
- Allow University to own IP
- Researchers continue to collect royalties
- CRDF involved in licensing process
- CRDF share in royalties
- CRDF obtains ‘March-in’ Rights
Economic Research Priority Allocation of Resources
How Much Should the Industry Shift from Marketing to Research?

• Marketing returns are well established
• Marketing returns are generally short-run, but immediate
• Research returns are much riskier, and take longer
• Longer timeframe diminishes net present value
• However:
  Without Research Nothing Changes!
Economists Can Provide Insights

• Potential Economic Studies
  – Benefit-Cost Analysis
  – Economic Impact Evaluations
  – Return on Investment
  – Input-Output Analysis

• Should be Required
  – Stakeholders would demand accountability
Conclusion
Optimizing Research and Marketing Resources

- Sustainability Pressures on Agriculture will Increase in the Future
- Resource Allocation Decisions are Critical
- Florida Citrus is Conducting an Experiment that can be Educational
- Stakeholder Funding will Force Accountability
- Economists need to be part of the process from the beginning!
Thank You