Challenges and Opportunities in the Changing World of Horticulture

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The Handwriting on the Wall:

- **Change Happens:** They keep moving the cheese

- **Anticipate Change:** Get ready for the cheese to move

- **Monitor Change:** Smell the cheese often so you know when it's getting old

- **Adapt to Change Quickly:**
  
  The quicker you let go of the old cheese, the sooner you can enjoy the new cheese.
Alexander Graham Bell

⇒ **Opportunity**

"When one door closes, another opens.............

...but we often look so long and so regretfully upon the closed door that we do not see the one which has opened for us."
Changes Affecting the Public Land-Grant System

⇒ 1987 National Research Initiative Changed Formula Funding.
⇒ Federal & State Funding will Remain Flat - state assisted *(located?)* universities.
⇒ Cooperative Agriculture Extension Service now

*Cooperative Extension Service*

Shifting clientele needs--society, not just Ag producers

⇒ Family, Health, Happiness

⇒ Competing in a Global Economy -- Food is cheap, 9% of disposable income, high production efficiencies, $ billion surpluses
National Priorities NASULGEC & ESCOP

- Being Competitive in a Global Economy
- Value-Added Crops
- Adjusting Ag to Climatic Change
- Good Stewards of the Environment & Natural Resources
- Making Agricultural Enterprises Profitable
- Making our Families and Communities Strong
- Modifying Foods for Improved Health & Safety

A Science Roadmap for Agriculture
(November 2001)
Challenges

⇒ Achilles heel of Horticulture – we are Ubiquitous– What is Hort??

⇒ Public/ Young person’s negative image of Ag, Farmers, “Crops”, Horticulture, Floriculture – low tech, low pay, low margins, tough work environment. ⇒ Internship Experience

⇒ Marketing Problem, need to turn Hort upside down: “nursery crops” — exterior/interior design/decorating business; improve life styles, sense of well-being & psychological health, quality of life — compete with discretionary products & people’s leisure time.

⇒ Gardening #1 Pastime: $38.4 billion do-it-yourself-78% US households, 84 million households] lawn & garden products/$457 household; $31.3 billion professional services = consumers spent $69.7 billion on lawns & gardens (NGA; www.garden.org )
Challenges (con)

- **Applied Research poorly funded** — lack of marketing order/check-off system — lack of unified/coordinated lobbying/leveraging.

- **National Nursery-Floriculture Initiative** (SAF/ANLA) from Farm Bill ($6 M discretionary — future $21 M); not President’s budget.

- **Hatch Funding (Experiment Station)**: $178 M — 2005; $89 M — 2006; $0 - 2007

- Not Joining/participating in ASHS -- 6/50+ faculty at Cook College

  Volunteerism ethic within membership
Challenges

- Urbanization of Agriculture -- 85% population in Texas is Urban
  No farm experience/exposure

- Globalization—if it can be grown elsewhere & cheaper —going to happen;
  social/economic impact on rural communities.

- Making Hort companies more competitive, finding new niches,
  improving bottom lines.

- Problems of Horticulture Producers not high priority to Legislators —
  alleviating the political pressure & fixing problems of their constituents
  — Hort need to interact with other disciplines to help solve/fix societal &
  economic problems.
Opportunities

- Marketing Horticulture -- More Nimble, Flexible, Think & Communicate in Uncommon Ways

- Dealing with health and welfare issues, social problems – putting together problem-solving packages with other disciplines.

- Ornamental crops, #3 commodity crop in US after corn and soybean; ornamentals-horticulture #2 commodity in Texas after Beef; bigger than Cotton. Not Subsidized

- Specialty Crops (Horticulture) represents > 50% of all Ag Crops

- Successful Hort producers are: sophisticated, creative business people using state of the art marketing & production systems, producing and tracking inventory with GPS to computerized bar code scanning systems
Opportunities (con.)

- Disconnect of young people with math and science (in grammar school, i.e. age 10+) – outsourcing to India, China, other regions
  - Junior Master Gardner's Program

- Need to better partner with other groups: Strategic ties with Industry / stakeholders; National Gardening Association -- NSF, NASA, DOD, NIH, CDC.

- There will be no long-term human presence on the moon or Mars without HORT.

- Repositioning of $ away from land-grant Experiment Stations to national competitive grants – Needs to be a demonstrated tie-in of grant with its application – bringing in the applied, extension, delivery system with grants if they are to be funded.

  We are going full circle where the gene jocks/molecular biologists are going to have to collaborate with the application/applied specialists. ➔ ROI.
Opportunities (con)

- SBIR grants (Small Business Innovation Research) [www.csrees.usda.gov/fo/sbir](http://www.csrees.usda.gov/fo/sbir)
  
  Grants available via CSREES (USDA)—$19 million FY2006;
  11 other federal agencies: USDA, NSF, NIH, CDC;
  Partnering between industry & academia.

- $80K initial phase one; $300k phase two—have 50% chance of acceptance;
  currently $8.2 million in CSREES; biological approaches to improving floriculture production; post-harvest handling of specialty crops; reduction of manual labor;

- CSREES administers the national research initiative awards (NRI) competitive grants program;

- [www.egov.com](http://www.egov.com) – all info on government grants updated. (Jim Green).
Urbanization

⇒ Opportunities in Urban Agriculture: Horticulture, Ornamentals, Agronomy, Turf-golf, Forestry, Soils, Social Sciences, Medical Sciences.

⇒ Niche- Opportunities of Ag are in HORTICULTURE
   Need for new, different products, tough plants for nongardeners;
   Nursery stock – producing stuff that doesn’t ship well — 2-gal herbaceous perennials.

⇒ Vegetables, herbs, dandelions in Vineland, Cumberland County, NJ – $50-60 million fresh market vegetables, ethnic type vegetables; hydroponics in Cumberland County.

⇒ Small landscapes – green lawn concept. Landscaping niches: pop in pot systems along the NJ shore- trickle irrigation – landscapers have annual contracts, own, seasonally change out plants; agreed upon landscapes: 2 to 12 gal containers.

⇒ Health/quality of life issues: Buying fresh foods at farmer’s markets & eating seasonally vs. processed foods.
Want any Fruit with that Big Mac or kid’s Happy Meal??

- McDonalds trying to shed its “fat-boy” image.
- Tex-Macs – Chipotle’s Restaurants, healthy burrito; 2% avocado’s in US
- McDonalds: Salads, fruits (Apple Dippers): lettuce, tomatoes, apples (0.5 -5%); [Salads – most successful menu introduction in past 10 yrs].
- Largest buyer beef, potatoes—focusing on fresh fruits & vegetables—major player in $80 billion US produce industry.
- Processing Gala apples at Missa Bay/Ready Pac Produce (Swedesboro, NJ) – growing more Cameo & Pink Lady apples—crispness & flavor.
- Grape tomato sales +25% since 2003 (Procacci Brothers Corp, Cederville, NJ)
Consilience?

- Edward O. Wilson

- “a jumping together”

- encourages those who study the sciences, the humanities and the arts to bridge the gaps between their narrow specialisms

- and so link together all the branches of learning -- an aim which goes back to the thinkers of the time of the Enlightenment.
Lisa Whittlesey $1.2 million – Meadows, Houston, Roberts & Heep Foundations

$250k/yr curricular sales (70% schools, 30% Scouts, Girls/Boys clubs, 4-H).

Building youth leaders by utilizing environmental sciences to develop academic skills, character education, service learning, Ag awareness, nutrition—eating habits—fruits & vegetables.
Teaching Standards for Math, Science, Social Studies, Language Arts

- **Level One**: 3, 4 & 5th grades;  
  **Level Two**: 6, 7 & 8th grades

- Reach 1 million youth annually; affiliations & partners: NWF, 4-H, Disney, Peace Corps, CDC, AHS, NGA, Minute Maid, TNLA, USDA Food Stamp nutrition program.

- $175k to develop curriculum: feedback, trends, development
No Segment of Agriculture is Better Situated than HORTICULTURE to Address Societal Problems & to Produce Niche Markets with new Horticultural Products & Services.