National Program 216  Agricultural System Competitiveness & Sustainability Workshop
February 22, 2012

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Dr. Edgar King, Mid South Area
Dr. Laurence Chandler, Mid West Area
Dr. Dariusz Swietlik, North Atlantic Area
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Dr. Andrew Hammond, Pacific West Area
Dr. Deborah Brennan, South Atlantic Area
Dr. Dan Upchurch, Southern Plains Area
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- Dr. Michael McGuire, Northern Plains Area
- Dr. Maureen Whalen, Pacific West Area
- Dr. Dan Upchurch, Southern Plains Area
Research Planning, Implementation, and Review in USDA-ARS National Programs

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Benefits of Agricultural Research

- Increased productivity
- Lower food prices
- Increased trade
- Improved quality of life
Research has also helped producers address:

- Natural resource concerns.
- Changing market conditions.
- New technology introductions.
- Solving major problems.
Success of Agricultural Research

- Feeds a population in excess of 6 billion
- Uses only 0.2 ha (0.5 ac) of land per person

Agricultural Concerns

- Intensive agriculture impacts the resource base.
- Reduces capacity and sustainability.
Overview of the Agricultural Research Service

- In-house research arm of USDA
- Farm-to-table, molecules-to-watersheds research scope
- 20 National programs
- ~800 research projects
- Partnerships with universities and industry

- ~8,200 employees
- ~2,200 scientists and postdocs
- 90+ locations (4 overseas)
- $1.1 billion annual budget
- Additional funds in competitive grants, CRADAs, other research agreements
Providing a scientific foundation for decision making in agriculture

“Our mission is to conduct research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to . . .”
Ensure high-quality, safe food and other products

Assess the nutritional needs of Americans

Sustain a competitive agricultural economy

Enhance the natural resource base and the environment

Provide economic opportunities for rural citizens, communities, and society as a whole
ARS Strategic Goals

• Adaptation of agriculture to climate change.
• Improve the safety of America’s food supply.
• Ensure that all of America’s children have access to safe, nutritious, and balanced meals.
• Increase global food security through improved systems for sustainable agricultural productivity.
• Contribute to US bioenergy needs through development of improved feed stocks, feed stock production systems, and improved conversion technologies.
USDA Strategic Goals

• Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving.
• Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.
• Help America promote sustainable agricultural production and biotechnology exports as America works to increase food security.
• Ensure that all of America’s children have access to safe, nutritious, and balanced meals.
ARS Research Priorities

- Climate Change
- Food Safety
- Children’s Nutrition/Health
- Global Food Security
- Bioenergy
Research Models

- **Investigator Driven**
  - Typical of Universities
  - Hired to work in research area
  - Relevance driven by the investigator

- **Mission Driven**
  - ARS
  - Hired to work in a mission area defined by the Agency, based on broad input
  - Relevance is driven by a complex process of congressional, stakeholder, and scientist input
How does ARS coordinate its research and avoid redundancy?

Through National Programs

- A National Program is a set of research projects directed toward common goals to solve agricultural problems of high National priority.

- National Programs are outcome driven, e.g., “A safer food supply”
## ARS National Programs
### Program Planning and Evaluation

<table>
<thead>
<tr>
<th>Natural Resources &amp; Sustain. Agric. Sys. (~20%)</th>
<th>Crop Production &amp; Protection (~35%)</th>
<th>Animal Production &amp; Protection (~15%)</th>
<th>Nutrition, Food Safety &amp; Quality (~30%)</th>
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<tbody>
<tr>
<td>Steven Shafer</td>
<td>Kay Simmons</td>
<td>Steven Kappes</td>
<td>Vacant Associate Administrator</td>
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<td>Water Availability and Watershed Management</td>
<td>Plant, Microbial &amp; Insect Germplasm Conservation &amp; Development</td>
<td>Food Animal Production</td>
<td>Human Nutrition</td>
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<td>Global Change, Soil and Emissions</td>
<td>Plant Biological &amp; Molecular Processes</td>
<td>Animal Health</td>
<td>Food Safety</td>
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<td>Bioenergy and Bioproducts</td>
<td>Plant Diseases</td>
<td>Arthropod Pests of Animals and Humans</td>
<td>New Uses, Quality &amp; Marketability of Plant &amp; Animal Products</td>
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<td>Agricultural Waste and Byproduct Utilization</td>
<td>Crop Protection &amp; Quarantine</td>
<td>Aquaculture</td>
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<td>Pasture, Forage and Range Land Systems</td>
<td>Crop Production</td>
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<td>Agricultural System Competitiveness and Sustainability</td>
<td>Methyl Bromide Alternatives</td>
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- Plant, Microbial & Insect Germplasm Conservation & Development
- Plant Biological & Molecular Processes
- Plant Diseases
- Crop Protection & Quarantine
- Crop Production
- Methyl Bromide Alternatives
- Food Animal Production
- Animal Health
- Arthropod Pests of Animals and Humans
- Aquaculture
- Human Nutrition
- Food Safety
- New Uses, Quality & Marketability of Plant & Animal Products
ARS Research Program Management

- Role of the Office of National Programs
  - Research relevance
  - Program coordination
  - Program impact

- Role of the Area Offices
  - Prospective quality assurance
  - Project and resource management
Comprehensive Research and Development Programs

- Apples to Zucchinis
- Molecules to Watersheds
Benefits of National Programs

- Coordination
- Communication
- Efficient use of resources
- Results
ARS National Program Cycle

Basic unit of Relevance planning (synthesis of inputs to determine priorities):
- a National Program
- NP is made up of multiple research projects
- Projects are coordinated, complementary, to achieve 5-year objectives

Quality (Retrospective)
- Program Review & Assessment

Quality (Prospective)
- Scientific Merit Peer Review of New Research Projects
- Project Implementation

Performance
- Program Coordination

Relevance
- Research Program Planning & Priority Setting

Base Funding Reallocation to Priorities & Budget Development and Allocation of Increase
Other Agencies

President (OMB, OSTP), Secretary & Congress

Customers, Stakeholders, Advisory Boards

ARS Program & Budgeting Priorities

Agency Scientists & Managers

Scientific Community
Drivers of Research Direction

- Congress
- Secretary of Agriculture
- Office of Management and Budget
- Office of Personnel Management
- Homeland Security
- Public Stakeholders
- Public perception
- Foreign affairs

...etc.
ARS Partners In Research

- USDA
- Other Government Agencies
- State Universities
- International Organizations
  - U.N. Food and Agriculture Organization
  - World Bank
  - Consultative Group of International Agricultural Research
  - Tropical Ag Research & Higher Ed Center
  - U.S./Israel BARD
ARS Customers & Stakeholders

- Action and Regulatory Agencies
- Producers–Farmers and Ranchers
- Industry
- Non-governmental Organizations (NGOs)
- State and Local Governments
- Consumers
Leading America towards a better future through agricultural research and information.