The Need for
Innovative Research Partnerships

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Let food be thy medicine and medicine be thy food.

- Hippocrates
Trends in R&D by Agency

In billions of constant FY 2015 dollars
Public vs. Private Funding in Agriculture R&D

Source: USDA ERS
The FFAR Model

• Established with bipartisan congressional support in 2014 Farm Bill

• Creates novel research partnerships across the food and agriculture sector.

• Works nimbly to efficiently address emerging issues in food and agriculture.

• Leverages public dollars with private dollars to expand research impact.

• Fills research gaps to ensure great science supports thriving farms, reduces food insecurity, and supports better health.
800 million people go to bed hungry every day

1.9 billion people are overweight or obese

BOTH GROUPS ARE FACING MALNUTRITION
How We Usually Study the Food System

- **Pre-Production**
- **On-farm Production**
- **Processing & Storage**
- **Distribution & Access**
- **Prep & Consumption**
- **Health Outcomes**

**PRODUCTION SIDE**

**CONSUMPTION SIDE**
How We Should Study the Food System
Food is Medicine

- Just beginning to tie together food production and health
- New Working Group on the Hill
  - Led by Congressman Jim McGovern
  - Bipartisan working group within the House Hunger Caucus
Partnerships
Advancing solutions to complex problems – TOGETHER

COMPLEX PROBLEMS

COLLABORATION
• POOLED RESOURCES
• POOLED KNOWLEDGE
• SHARED RISK

CHANGE TO BENEFIT HUMANITY
Public-Private Partnership Incentives

**Private sector incentives:**
- Corporate social responsibility
- Rapidly overcome obstacles to advancement
- Cost savings
- Direct access to fundamental research
- Access to academic expertise
- Cultivate future employees

**Public Sector incentives:**
- Address real-world problems
- Transfer research quickly to the economy
- Access to resources and data otherwise unattainable
- Access to expertise
How to Make Public-Private Partnerships Work

- Shared Goals and Values (honesty)
- Agreement on responsibilities and rules of engagement (including IP)
- Transparent value proposition for each partner (trust)
- Synergy (goals cannot be achieved by any partner working alone)
- Skin-in-the-game from all partners
- Joint celebration of successes
- Shared responsibility for failures
How do we use research partnerships to improve health through nutrition?
1) Understanding how food impacts health

Invest in research to understand the gut microbiome and how what we eat influences gut health, which impacts overall health

Hannah Holscher, Ph.D.
University of Illinois

• Studying how foods high in fiber impact the gut microbiota and health.
• Results will provide health recommendations and help consumers make food choices.
• Interdepartmental research team from biotechnology to community health.

Holscher (left) is a 2017 FFAR New Innovator
2) Making food better for you

Can we make the food you eat more nutritious? Can we provide precision nutrition?

- 5x more vitamin K
- 3x more vitamin C.
- 2x more beta-carotene
Precision Indoor Plants Collaborative

FFAR is developing a pre-competitive collaborative to advance efforts to grow specific, high-value crops indoors: a **combination of environmental control (inputs) and plant genetics.**

**Production-based Traits**
- Crop architecture
- Production time
- Yield
- Light techniques

**Consumer-driven Traits**
- Nutrition
- Pre-cursors for industry
- Medicinal
3) Making healthy food more accessible

How do we make sure everyone has access to healthy, nutritious foods?
Tipping Points

• **Goal:** To use computer modeling to understand how multiple nutrition programs interact to improve community health and economic development.

• More than 38 companies, organizations, and universities involved in five U.S. cities: Austin, TX; Flint, MI; Albany, NY; Cleveland, OH; Denver, CO
We can do more TOGETHER than alone.

Public-private partnerships are key to improving health through food.
Thank You

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