

UC ANR Nutrition Policy Institute

Brown Bag Seminar Series

**Funding Research to Enhance the Economic and
Environmental Resilience of our Food Supply**

John Reich, PhD

The Foundation for Food and Agriculture Research

Friday, March 16th, 2018

<http://npi.ucanr.edu> • Twitter @UCNPI



University of California
Agriculture and Natural Resources | Nutrition Policy Institute





The Foundation for Food and Agriculture Research: Funding Research to Enhance the Economic and Environmental Resilience of our Food Supply

John Reich | March 16, 2018

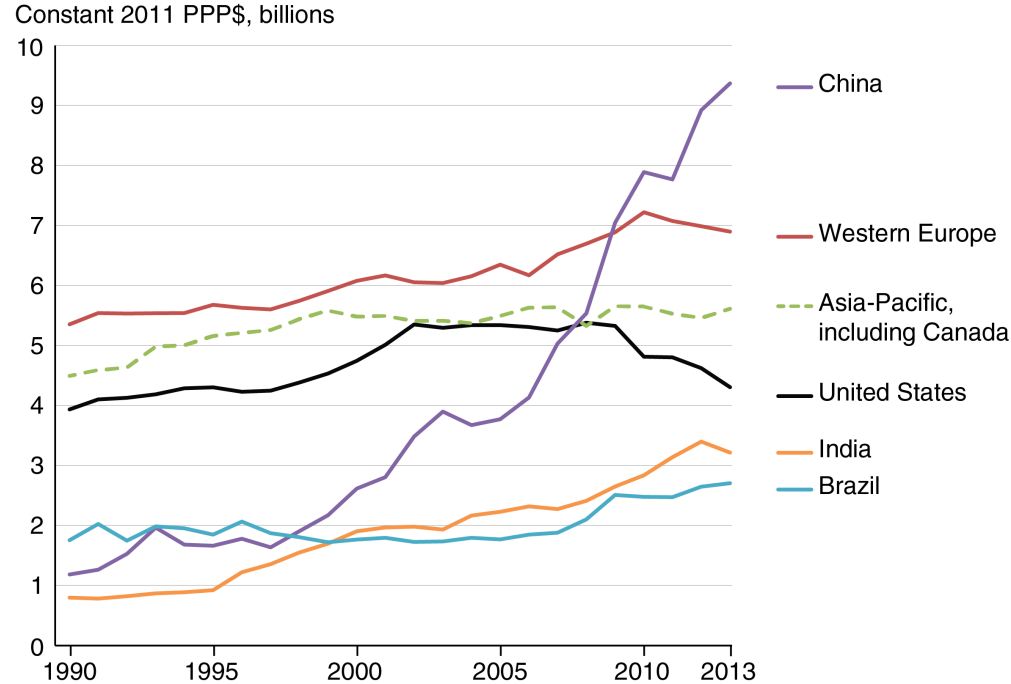


The Challenge

\$9.7 billion is needed by 2050

Scientific innovation is critical to meet the needs of a growing global population.

Funding for Agricultural R&D



Source: UDA ERS and ASTI, Organisation for Economic Cooperation and Development

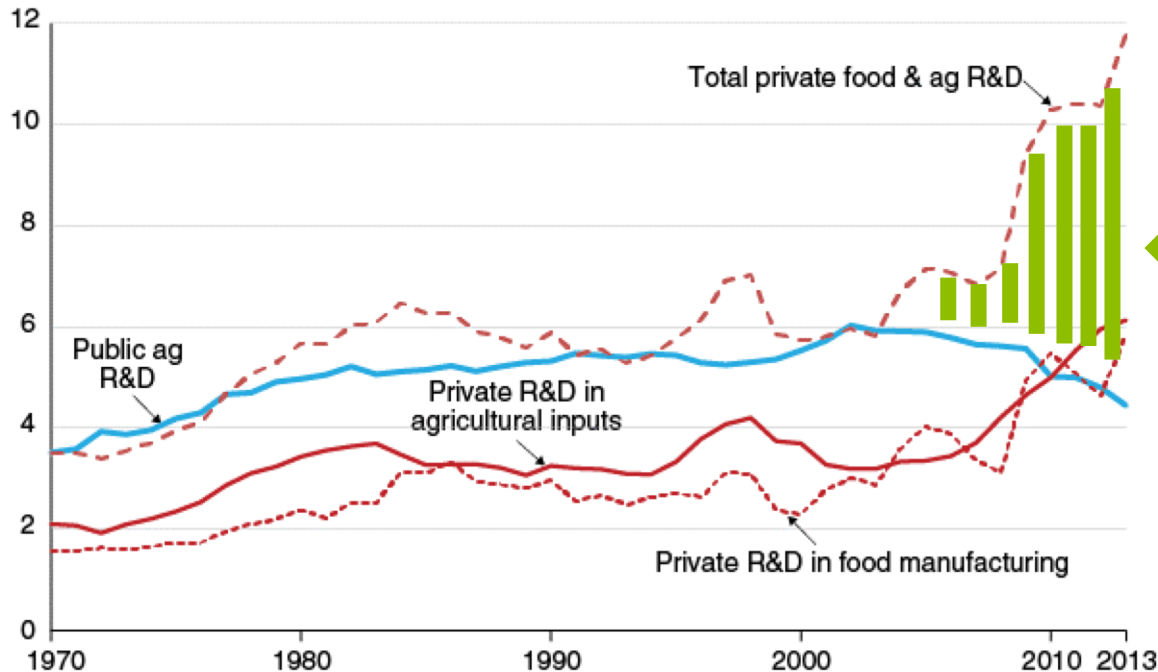
More food will be eaten in the next 50 years than in the past 7,000 years.

How will we feed 10 billion people when public investment in food and agriculture R&D is declining?



The FFAR Model Leverages Private Funds For Public Good

Constant 2013 US\$, billions



Source: USDA ERS

FFAR Mission

We build unique partnerships to support innovative science addressing today's food and agriculture challenges.



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.

How We Work



Private-Public Partnerships

We build unique partnerships to support innovative science addressing today's food and agriculture challenges.

\$200M + **\$200M**

FFAR
Investment

Non-Federal
Match

“ FFAR also brings together **diverse groups** that might not otherwise collaborate to **solve big challenges** ...the FFAR model delivers - and **doubles the taxpayer's investment.** ”

-Bob Stallman

*Past President, American Farm Bureau Federation
Current FFAR Board Member*

Why Engage Industry?

Shift to private and proprietary R&D in agriculture means we must move together.



Figure out the Pre-Competitive Space

Pooling resources for public benefit.

Accomplishing more, together.



Pre-Competitive Space



Area of research where outcomes offer no particular advantage relative to peers and where there is potential to positively impact all parties.

Allows resources and data to be readily shared.

How To Make Public-private Partnerships Work

- Shared Goals
- Shared 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





OUR RESEARCH AREAS

Challenge Areas



**Food Waste and
Loss**



**Healthy Soils,
Thriving Farms**



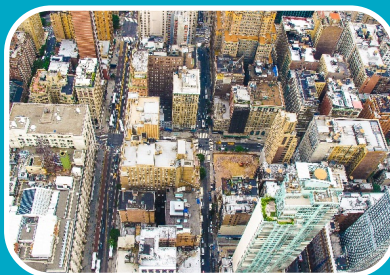
**Overcoming
Water Scarcity**



**Protein
Challenge**



**Making "My Plate"
Your Plate**



**Urban Food
Systems**



**Forging the
Innovation
Pathway**

FFAR Challenge Area Priorities: 2017 - 2019

Water Scarcity

- Irrigation
- Plant efficiency
- Water reuse/recovery
- Groundwater recharge

Soil Health

- Soil health indicators
- Soil enhancing techniques
- Open platform decision support tools

Protein Challenge

- Health and productivity issues under new production practices
- Environmental Sustainability
- Animal Welfare

Food Waste and Loss

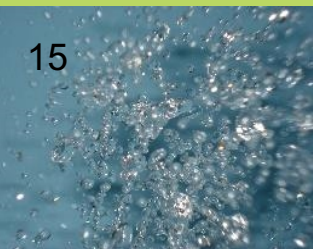
- Food system inefficiencies
- Measurement methodologies, monitoring & reporting
- Food and feed applications
- Non-food applications

Innovation Pathways

- Building trust in the science of new technologies
- Measuring technology adoption
- Overcoming constraints to tech adoption

My Plate, Your Plate / Urban Food Systems

- Crop Diversification
- Nutrition
- Resilience
- Market opps
- Food System
- Food interventions promoting health
- Supply chain





HOW DO WE FUND?

| What do we fund?

Our goal is to be in the innovation space:

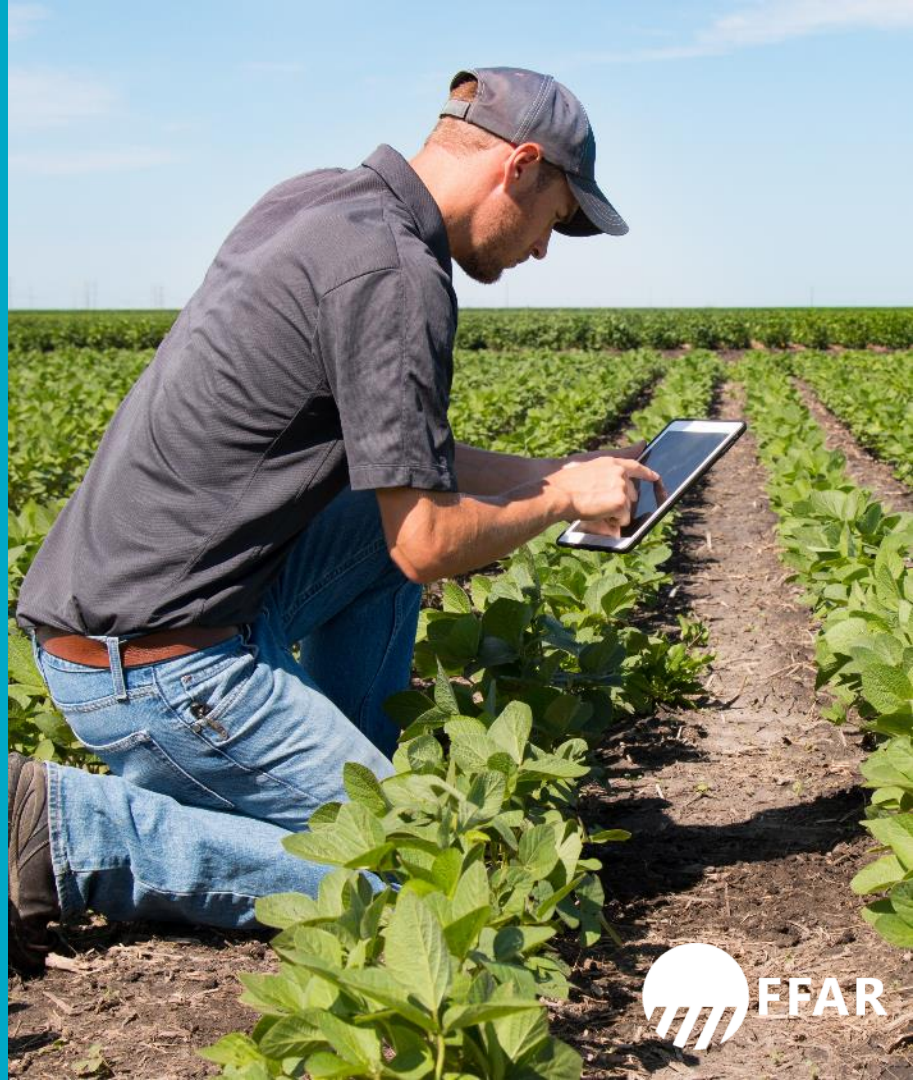
- 1) White spaces and gaps
- 2) Intractable issues where innovation is needed
- 3) New scientific opportunities in technology or new knowledge that can be applied to agriculture



Research Funding

Funds may be awarded in four different ways:

- 1) Competitive Grants
- 2) Direct Fund Grants
- 3) Consortia
- 4) Prizes and Challenges





Competitive Grants

Grantees must apply for funding in response to a request for applications.

- Tipping Points
- Pollinator Health Fund
- Sustainable American Aquaculture
- Animal Welfare
- New Innovators
- ROAR
- Seeding Solutions

Example: Tipping Points (Pilot Program)

Program Elements

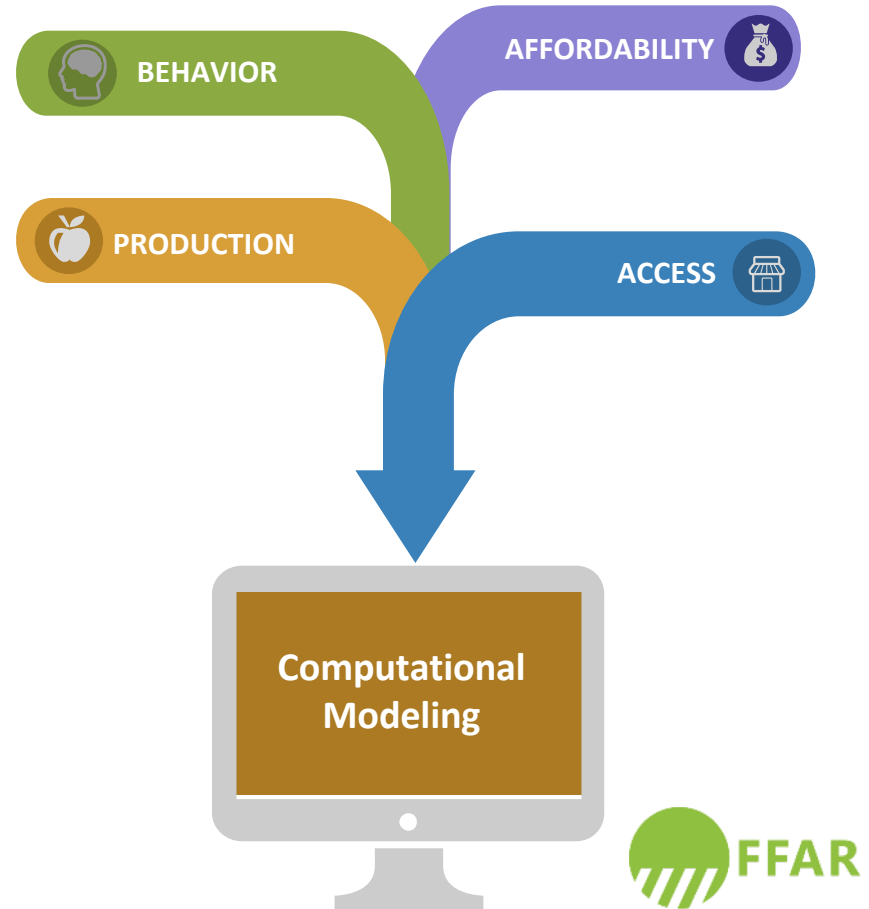
- Coordination of Efforts
- Communities with existing interventions

Data Collection

- Standardization of data, tools
- Coordination between groups

Computational Modeling

- Empirical data
- Integrate multiple aspects of the food system





Consortia

FFAR partners with industry to create consortia to pool resources for innovation.

- Crops of the Future
- Irrigation
- Crops in Controlled Environments
- Antimicrobial Stewardship Consortium
- Food Waste Consortium



Crops of the Future Collaborative



Prizes and Challenges

FFAR also awards funds to prize and challenge winners.

- NAS Prize
- XPRIZE





CURRENT OPPORTUNITIES

Current Funding Opportunities

foundationfar.org/open-opportunities

Rapid Outcomes from Agricultural Research

Emergency funding for research and outreach that prevents or mitigates pest or pathogen damage.

Continuing Call for Applications



New Innovators

Funding early career faculty to cultivate a creative workforce who will train, encourage, and inspire future generations of agricultural and food scientists.

Accepting Nominations through Feb 28



FFAR Fellowships

Combines cutting edge food and agriculture-related research w/ innovative professional development programs designed to help students be career-ready upon graduation.

Continuing Call for Applications



Seeding Solutions

- Focus on Challenge Areas
- \$7 million or more funding available from FFAR
- Bold, innovative ideas in food and agriculture
- Open for applications:
March 1, 2018

Learn more: bit.ly/SeedingSolutions



Seeding Solutions

Addressing Challenges in Food and Agriculture

9 Grants in 2017

awarded to bold and scientifically rigorous proposals to address FFAR Challenge Areas.

up to
\$1M
FFAR
funding

+

up to
\$1M
Matching
funding from non-
federal source

Example Seeding Solutions Grantee

North Carolina State University is working to enhance the **nutrient density** and **bioavailability** of nutrients and bioactives from F&V in **consumer products** and diversify consumer products





ENGAGE WITH FFAR

Submit a Concept in a Challenge Area

- Our online concept portal is always open for submissions.
- What should researchers submit?
 - Research concepts that align with a Challenge Area, but do not have an open RFA
- Submit at: bit.ly/ffarCAconcepts



Submit Other Concepts

- Our online concept portal is always open for submissions.
- What should researchers submit?
 - Research ideas that do not align with one of our seven Challenge Areas.
- Submit at: bit.ly/FFARconcept



Engage with FFAR

- Submit a research concept online
- Public Meeting
- Join a convening event to participate in developing future programs
- Start with a conversation: Contact us directly
- Sign up for FFAR newsletter: <http://bit.ly/FFARenews>



Thank You

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