

Influence of Science on Policy Decisions....Including Future Research Funding for Food and Agriculture

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Let's talk

- *Grand Challenges – we are in this together*
- *Science and policy*
- *“Is science enough?”*
- *Funding food and agricultural research*
- *The future through research - who's involved?*
- *Call to Action!*

May 22, 2010

■ **Is Financial Stability Realistic?**

■ **Navy Sees Future In Coastal Ships**

National Journal



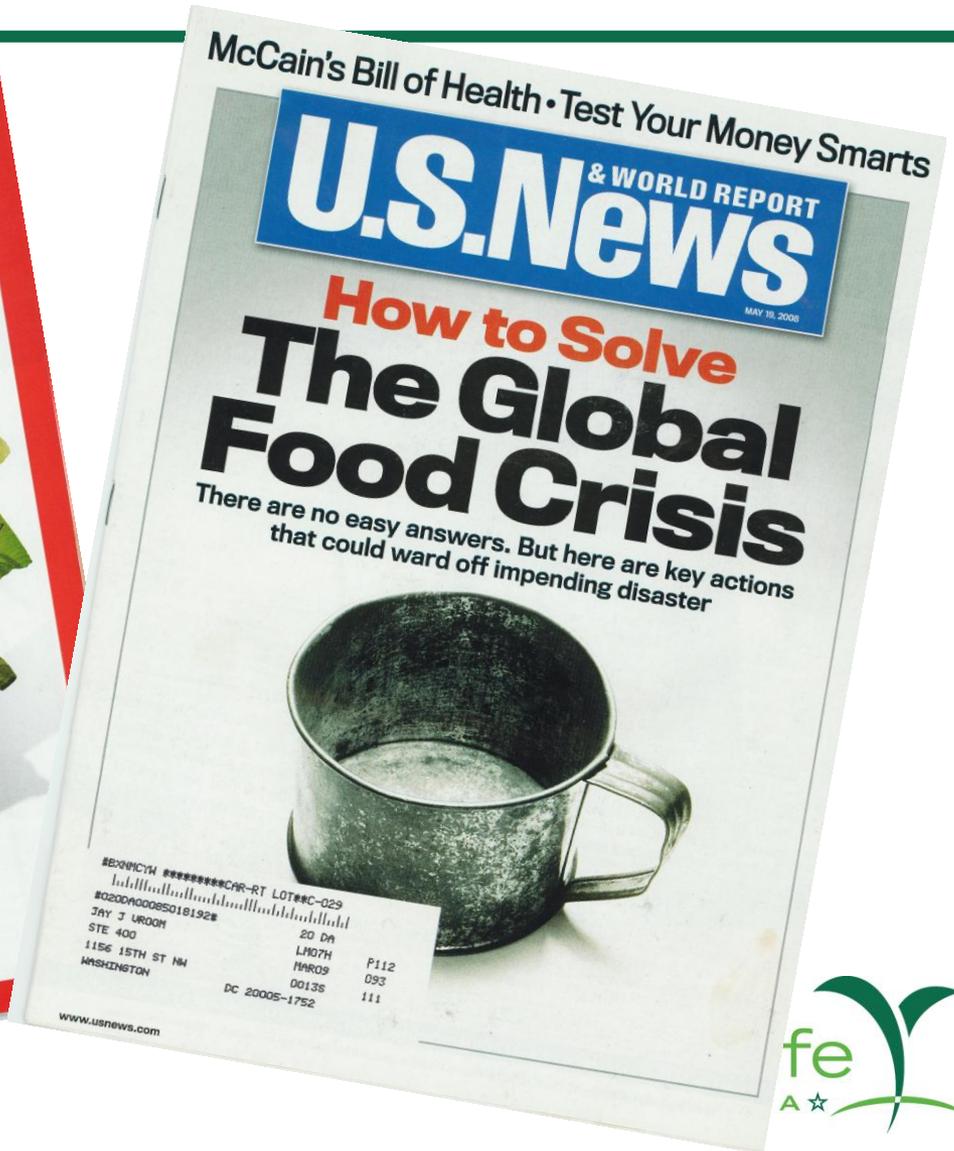
Four-Legged Freedom

Animal-rights activists have been making steady progress in the hinterlands on behalf of farm animals and other creatures. Now they are aiming at Washington.

■ **By Paul Starobin**

CropLife
★ AMERICA ★

Just Two Years Ago...



Just 12 Months Later...



The Dynamic Face of Agriculture



Modern
Agriculture

Organic
Agriculture

Integrated
Pest
Management

No-Till Farming

All-Natural

Locally Grown

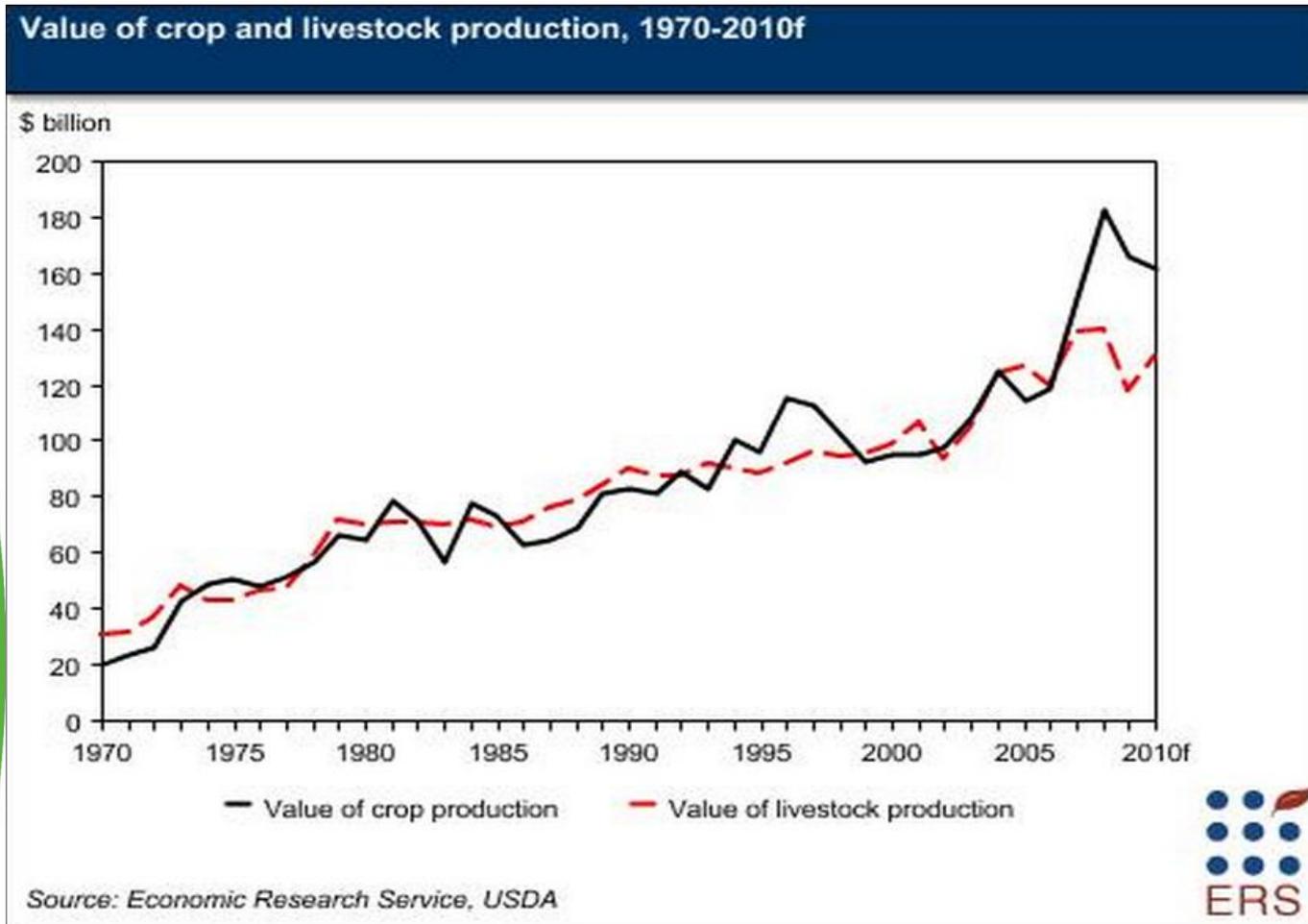
Fair Trade

? -Free

A Synergistic Relationship



Value of Crop and Livestock Production



21st Century Problems



- Increasing Population
- Improved Nutrition in China and India
- Water Shortage
- Global meat demand is projected to double by 2050

Technology is Crucial

The United Nations predicts world population will exceed **9 billion** by mid-century and has called for a **100 percent increase** in world food production by **2050**.

World Population Prospects: The 2006 Revision. 2007. United Nations Population Division, New York.



Technology is Crucial

70 percent of the world's additional food needs can be ***produced only with new and existing*** agricultural technologies.

United Nations FAO, 2002



Technology is Crucial

By 2090 there will be 1 billion Americans in the United States, a **tripling** from today's population of 330 million.

U. S. Bureau of Census, 2009



Science and Policy

- *The scientific basis for policy decisions by the U. S. government is critical*
 - *Undeniable societal benefits*
 - *Science-based regulations are basis for the safest, most affordable food supply in the world*

Science Atmosphere

- *The Administration supports science*
 - *“Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been.” – President Obama*
 - *National Academy of Sciences*
 - ❖ *..”devote more than 3 percent of our GDP to research and development.” - President Obama*
 - ❖ *But no mention of food & agricultural research*
 - *White House support for scientific integrity*
 - *White House support for fundamental research and commercialization of promising technologies*

Solutions!

- **“The issue of chronic hunger and food security is at the top of the agenda ...** The Obama Administration is committed to providing leadership in developing a new global approach to hunger.”
- “...a system of agriculture that nourishes all humankind requires more than a single breakthrough or advances in a single field. It requires a **sustained and comprehensive approach**. We need to create a global supply chain for food. Today, that chain is broken, and we need to repair it and make it stronger.”
 - --Hillary Rodham Clinton, June 11, 2009,
 - Remarks at the 2009 World Food Prize Announcement

Science Atmosphere

- *DOS – USDA Global Food Security Program*
- *President’s Council of Advisors for Science & Technology*
 - *Global food security and food & agricultural research*
- *USDA new National Institute for Food & Agriculture*
 - *Grand challenges priorities mirror those set forth in the NAS report, “A New Biology for the 21st Century”*

Science Atmosphere

- *USDA NIFA Agriculture and Food Research Initiative (AFRI) Challenge Areas*
 - *Global food security*
 - *Climate change*
 - *Childhood obesity prevention*
 - *Sustainable bioenergy*
 - *Food safety*

Science Atmosphere

- *White House Office of Science and Technology Policy*
 - *New science policy director for food & agriculture*
 - *Possible interagency efforts to bolster USDA research and public – private partnerships*
- *FY 11 Budget Request*
 - *Proposed increase in USDA NIFA AFRI of 64% from \$262 million to \$428 million*
 - *Proposed increase in EPA's research of 4.9%*

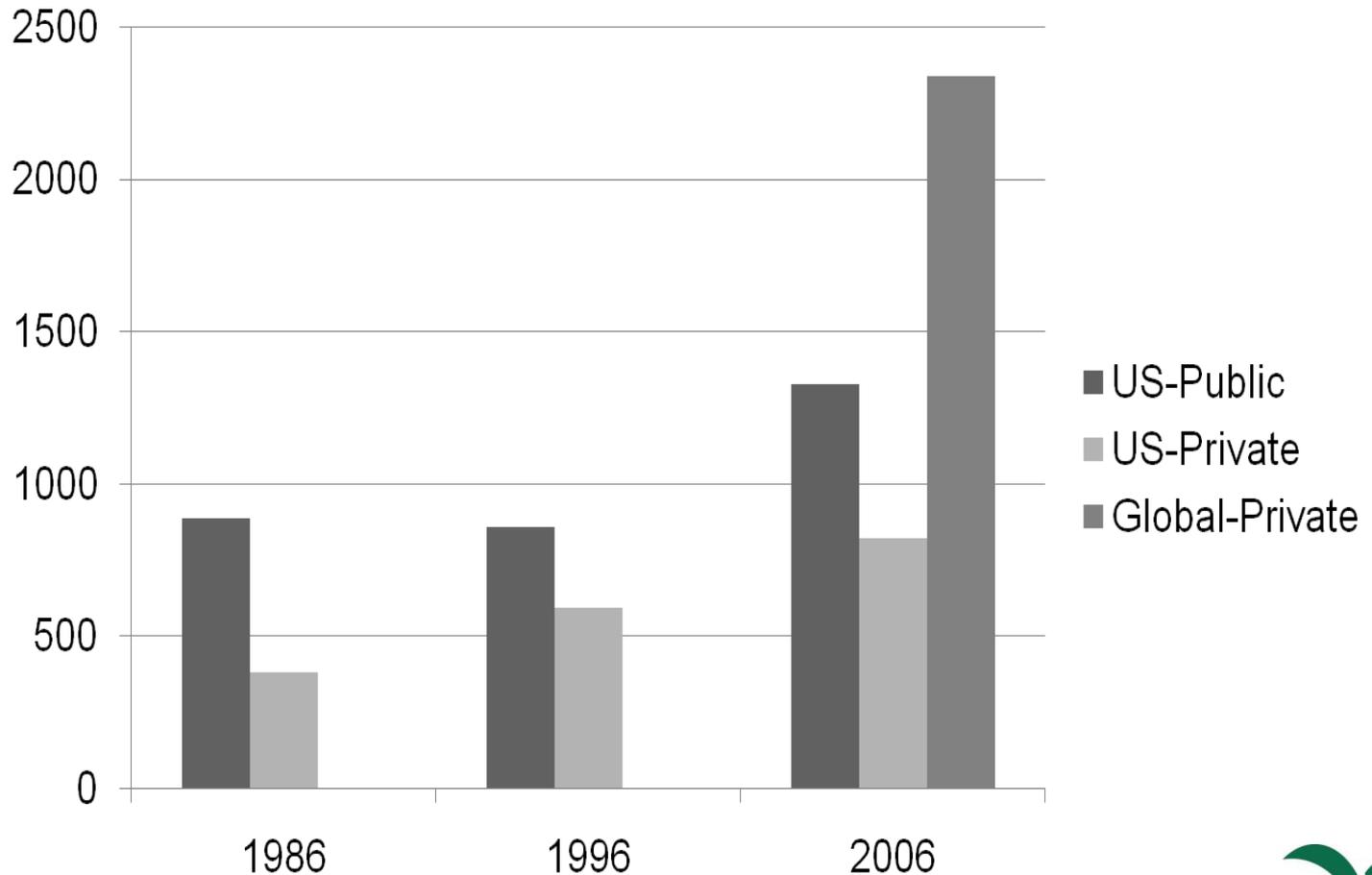
“Is Science Enough?”

- *Activists, skeptics, consumers (-maybe), even some of Us ask this question.*
- *Government policy MUST continue to be based on the principles of validated science.*
- *The question is not ... Is science enough?*
- *The question may be ... Is anything else needed?*
- *Our big Q--Does the Administration support science?*

What is at stake?

- *Many issues- children's health, climate change, food safety, use of antibiotics, animal welfare, biofuels, use of pesticides, CAFOs, NPDES, spray drift, clean air, clean water*
- *Lack of transparency*
- *Benefits ignored*
- *We are seeing many bad precedents to re-interpret and amend law that already codifies the science-based regulatory process*
- *Threat to farmers, research, industry, consumers*

Public and Private Animal Research Expenditures (Source: ERS)



Funding Food and Ag REE

- *Public funding is critical - a top national priority*
- *Training future workforce including scientists*
- *Return on investment in publicly funded research*
 - *81% annual rate of return (Austin et al., 2000)*
 - *50% average social rate of return (ERS, 2007)*
- *Increased funding for a balance of formula, competitive and intramural research is essential*
- *Challenge is the size of the funding pie---a zero sum game!*

Leveraging Research Dollars

- *Food and agriculture a full partner with human health*
- *Multi-disciplinary; integrated; interagency*
- *Leverage private funding*
- *R&D cost for one new crop protection product through registration by EPA is \$256 million and takes 10 years (CLA and ECPA, 2010).*
- *Public-private partnerships are essential*
 - *Stakeholder input*
 - *Assures research is prioritized*
 - *Relevant to American farmers*



The Future Through Research

- *Farm Bill 2012*
- *Feedback to NIFA; new interagency programs*
- *“Feed the Future” – new Administration program*
 - *Policy shift – help poor nations feed themselves*
 - *\$3.5 billion*
 - *Yet to be approved by Congress – new money?*
- *New US AID – USDA Commemorative Borlaug Research Initiative announced June 16 by Secretary of State Clinton*
- *Impact on U.S. agriculture?*

Science-centric future!



Preparing for Agriculture's "Perfect Storm"

As it did in 1973 when Dr. Norman E. Borlaug wrote [CAST Paper No. 1](#), agricultural policy continues to play a key role in issues that influence daily life. This current Issue Paper, [Agricultural Productivity Strategies for the Future: Addressing U.S. and Global Challenges](#), is an update of Dr. Borlaug's paper and includes a preface from him. It is a forthright appraisal of contemporary and future challenges facing U.S. and world agriculture. (January 2010)



Science-centric future!



Sustaining Animal Agriculture



Be Part of the Solution!
June 8-10, 2010

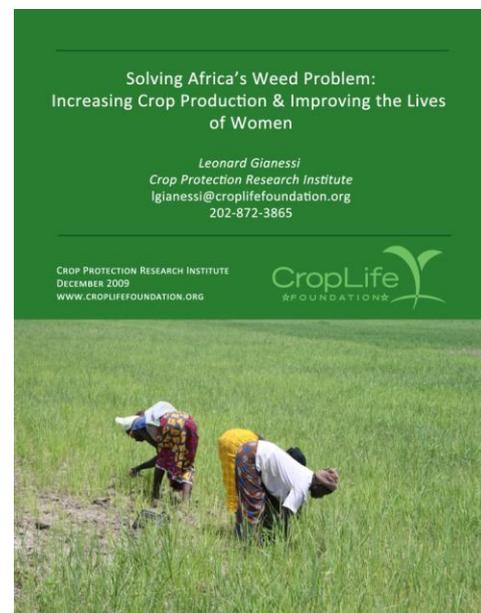
CAST is hosted a symposium of more than 30 speakers and panelists to address the impacts of regulations on food-animal agriculture at all levels and analyze the intended and unintended consequences of those regulations.

Science-centric future!

Solving Africa's Weed Problem: Increasing Crop Production & Improving the Lives of Women

Crop Life Foundation

Currently, African farmers lose 20-100% of their potential crop production due to uncontrolled weeds because of labor cost and shortage. CLF makes the case for the use of herbicides by smallholder farmers as a solution for weed control problems. Their research has shown that, if smallholders used herbicides, yields would rise and backbreaking hand weeding could be virtually eliminated.



Science-centric future!

- Science-based policy supported by research solutions is an essential foundation to our future
- Get involved in advocating for research priorities and funding – N C-FAR
- Drives policy and legislation
- Research funding is essential to policy
 - Scientific information
 - Training future scientists
 - Public – private partnerships
- Science can and should be the interagency “check-and-balance”



More information

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