Funding Equity for Animal Science Research

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What is NAAAS?

- A 501(c)6 organization founded by heads of departments of animal and poultry science.
- Initially comprised of department heads from 12 animal and poultry science departments. Expected to reach 30 by next month.
- Principle function is to be an effective advocate for increasing support for animal science research, extension, teaching.

Some Food For Thought

- By tomorrow, there will be 200,000 more people on Earth.
- Farmers and ranchers will need to produce more food in the next 50 years than was produced in the last 10,000 years combined.

Source: www.AmericasFarmers.com (2012).

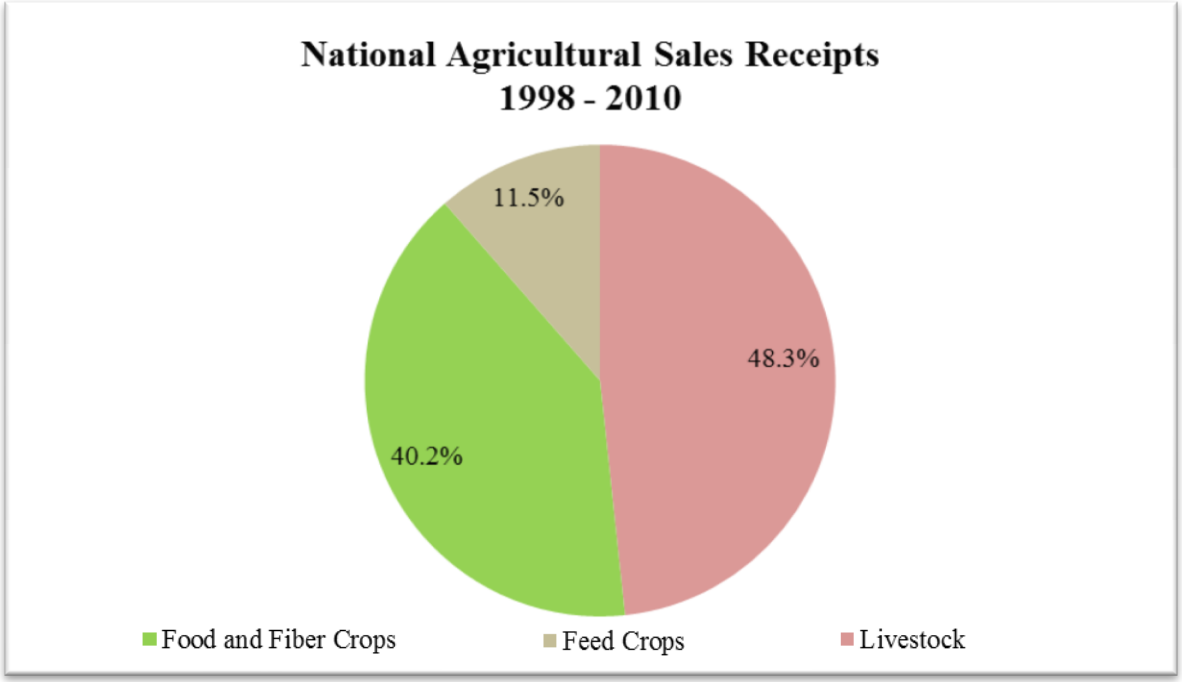
Over 70% of that new production will have to come from New technology and good science!

The Current Federal Situation

- Animal and plant agriculture contribute comparable value to our national economy.
- They do not share equal value as national research priorities.

The Current Federal Situation

- Animals and the food that they eat represent 60% of all agricultural sales receipts.



Source: USDA Agriculture Economic Research Service (http://www.ars.usda.gov/data/farmincome/finfidmu.htm; last accessed April 23, 2012)

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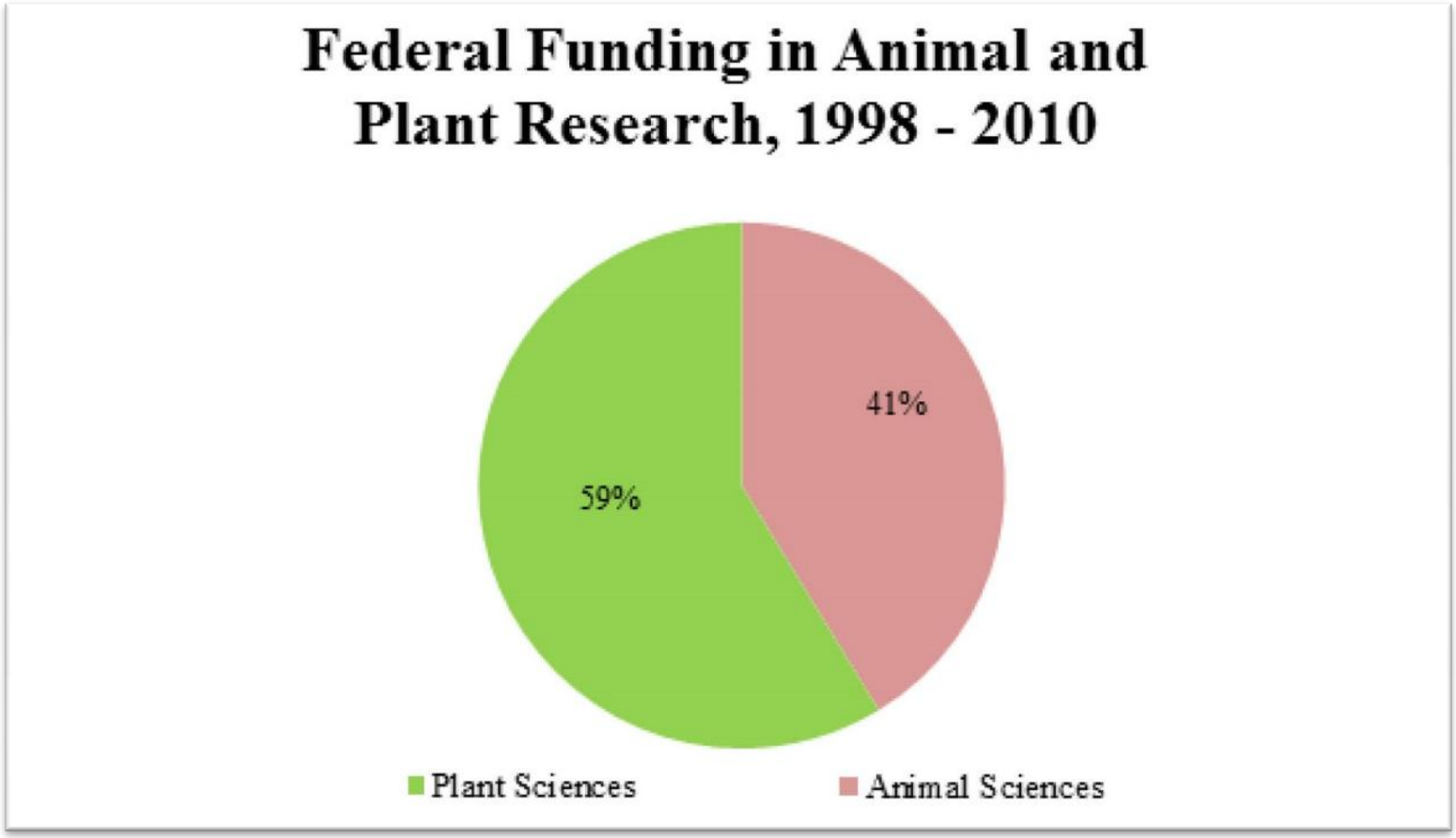
The Current Federal Situation



Source: USDA Agriculture Economic Research Service (http://www.ars.usda.gov/data/farmincome/finfidmu.htm; last accessed April 23, 2012)

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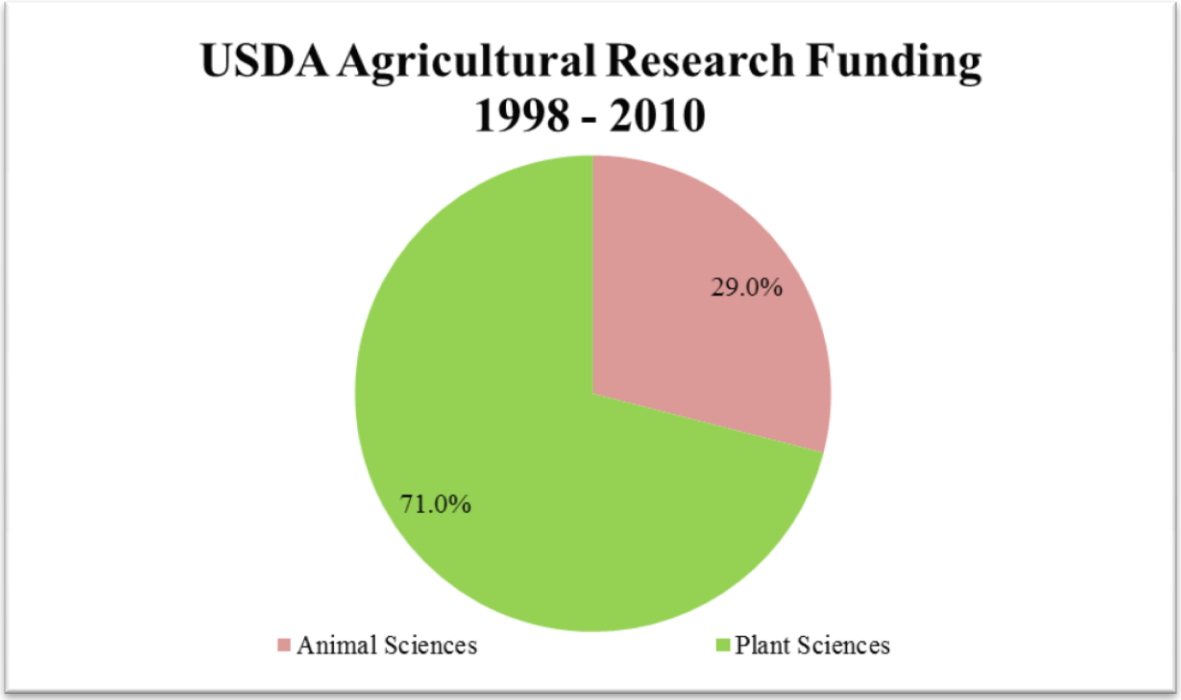
The Current Federal Situation

- From 1998-2012, USDA funding for research:
  - 71% plants vs 29% animals



Source: Current Research Information System Annual Funding Reports. Data retrieved from http://cris.nifa.usda.gov/fsummaries.html; last accessed April 23, 2012.

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USDA AFRI Funding FY 07 – FY 11

	Fiscal Year				
	2007	2008	2009	2010	2011
Farm Bill AFRI / NRI Priority Area					
Plant Health and Production and Plant Products	$ 67,718,946	$ 62,612,429	$ 65,673,296	$ 55,571,712	$ 43,481,877
Animal Health and Production and Animal Products	$ 39,304,939	$ 38,627,315	$ 43,936,155	$ 31,911,859	$ 22,190,302
Food Safety, Nutrition, and Health	$ 32,780,956	$ 33,424,317	$ 33,335,540	$ 49,615,681	$ 94,287,666
Renewable Energy, Natural Resources, and Environment	$ 18,813,819	$ 22,221,151	$ 20,926,963	$ 71,981,753	$ 43,186,589
Agriculture Systems and Technology	$ 8,467,351	$ 9,681,290	$ 10,578,782	$ 13,712,318	$ 18,018,288
Agriculture Economics and Rural Communities	$ 7,982,932	$ 8,983,890	$ 9,604,420	$ 14,583,344	$ 15,411,752
Total Awarded	**$ 175,068,943**	**$ 175,550,392**	**$ 184,055,156**	**$ 237,376,668**	**$ 236,576,475**

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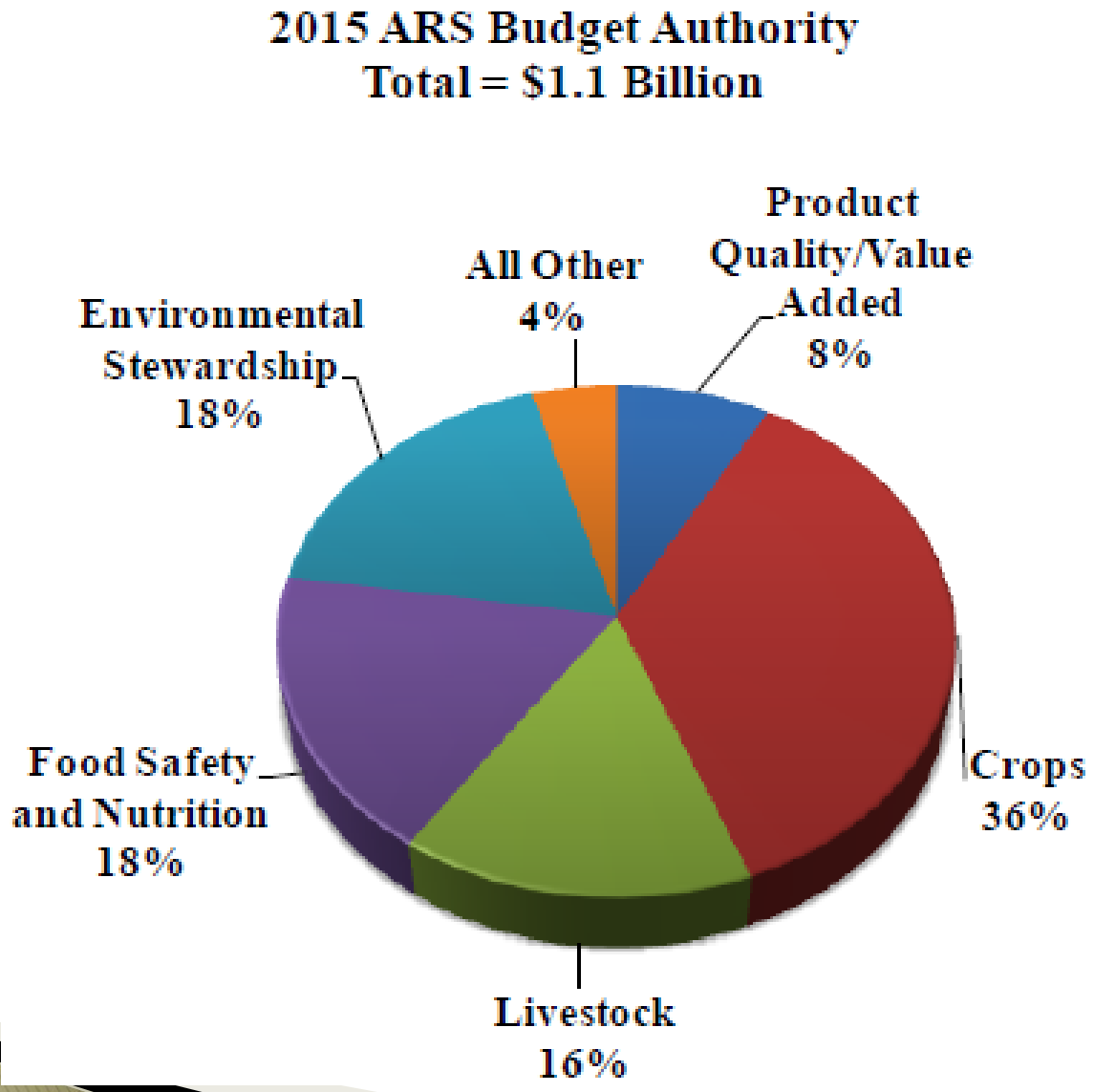
ARS Proposed Funding by Area



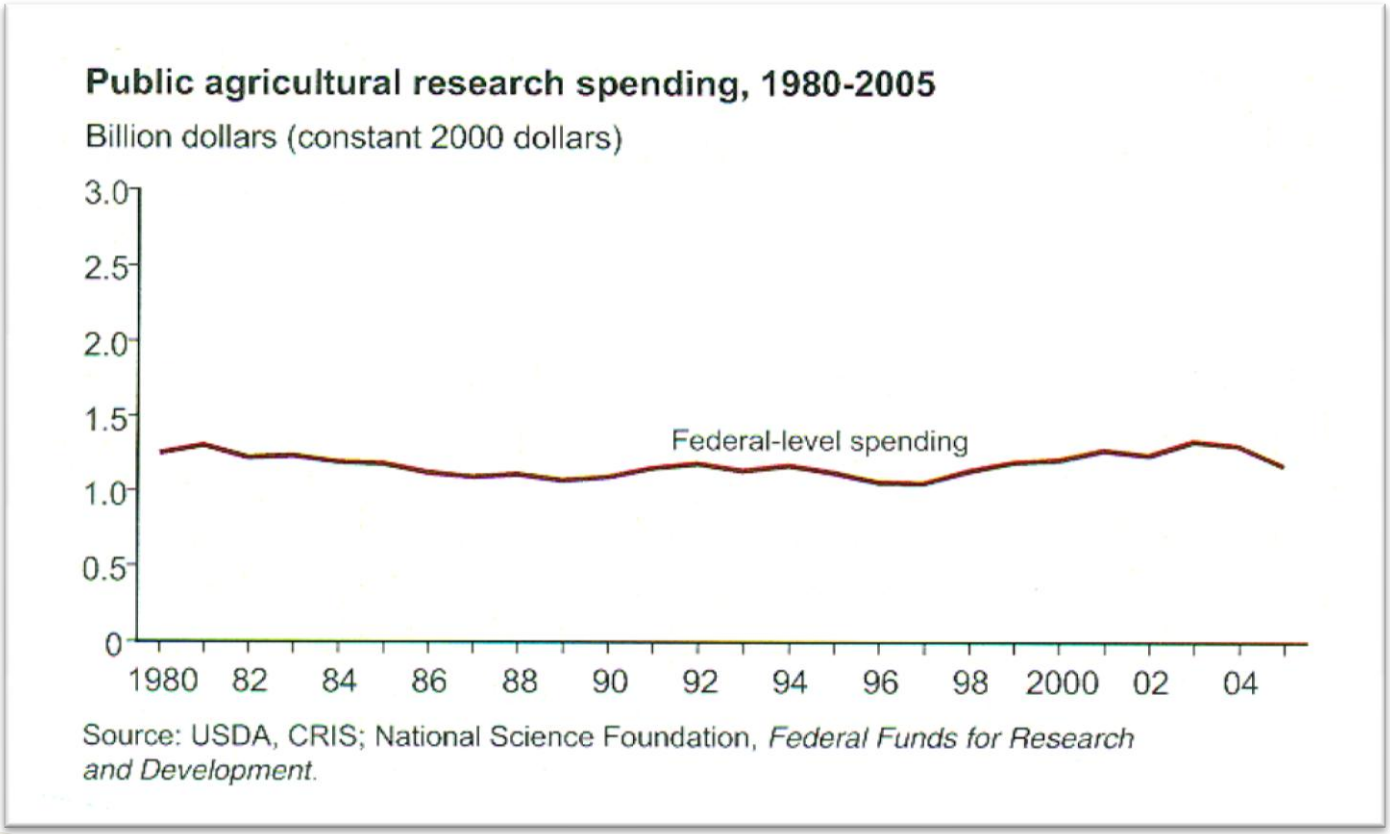
Source: President's FY 2015 Budget

- ARS, USDA
  - Total Budget: $1.1B
  - Beef: $60M

Source: Current Research Information System Annual Funding Reports. Data retrieved from http://cris.nifa.usda.gov/fsummaries.html; last accessed April 23, 2012.

The Current Federal Situation

- Overall level of public funding for intramural agricultural research has been stagnant for the past 25 years.



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The Current Federal Situation

Key Numbers
$1.4 B - U.S.[1]
vs.
$3.0 B - Brazil[2]
vs.
$45.0 B - China[2]

[1]Source: USDA, CRIS; National Science Foundation, Federal Funds for Research and Development.
[2]Source: Personal communication from Dr. Catherine Woteki, Under Secretary USDA for Research, Education and Economics.

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China, Brazil and India account for more than 43% of the world's Agricultural Research & Development spending!

Source: "For Want of a Nail" by Phillip G. Pardey and Julian M. Alston in: American Boondoggle: Fixing the 2012 Farm Bill www.aei.org/americanboomdoggle.

Checkoff Programs

- Even though they have been very positive, have we been relying too much on Beef and Pork Board Checkoffs programs for research support?
  - Beef Checkoff: $6 M
  - Pork Board Checkoff: $10 M
  - Australia: $75 M

Animal Science Research Priorities

- NAAAS and FAIR 2012
  - Food Security
  - One Health
  - Stewardship

Increased Funding

- Fundamental knowledge of biological and physiological processes that can be manipulated to improve production of meat and milk.
- Advancements in the rate at which scientific findings can be converted into new technologies for use in animal agriculture.
- Integration of applied and basic research findings into farming/ranching systems to improve productivity and efficiency.

Impacts of Additional Investments: Food Security

- Increased efficiency of low energy use and alternative feedstuffs in pasture, stocker and feedlot operations will reduce production costs and **increase efficiency by 20% in 2030**.
- Developing and assisting in adoption of the application of marker assisted genetic approaches will enhance efficiency and **reduce the cost of beef and dairy cattle production by 20% in 2030**.
- Using nutrition, genetics, biologically active products and natural selection, **reproductive rates in food animal species will be increased from 70% to 85% by 2040, and milk production will be increased by 25%** during that same period

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Impacts of Additional Investments: One Health

- New monitoring and diagnostic tests will dramatically reduce the impact of introduced disease through early detection before spread occurs. Accelerated vaccine development.
- Improved detection and intervention will reduce both human health and economic impacts of outbreaks. This will **reduce the incidence of foodborne diseases of animal origin by 25% by 2020**

Impacts of Additional Investments: One Health

- **Reduce livestock morbidity rates by 35% by 2030**, resulting in net increases in production efficiency while reducing the requirements for pharmaceutical interventions.
- Foods of animal origin with enhanced nutritive value and positive health effects will provide market incentives for such products.
- Improved utilization of genetic markers for disease resistance and production efficiency.

Impacts of Additional Investments: Stewardship

- Produce more food from animals with fewer natural resources through enhanced genetics, better use of natural resources and environmentally sound practices that **increase the ratio of animal food produced per unit of input by 25% in 2025**.
- **Reduce greenhouse gas emissions from food animal systems and related pre- and post-harvest industries by 35% by 2025.**
- Improved methods for housing, handling, transporting and feeding animals in overall production systems will improve health and productivity and enhance environmental stewardship in livestock production enterprises.

Proper Balance

Private sector

- How much does the industry support R&D?
  - Product companies (pharmaceuticals):
    25-35% of net profits
  - Commodity – low margin industry
    – less than 0.5% of net profits
  - Foundations?
  - Production animal research is very poorly supported as is all “production” agriculture.

State

State support of universities

- < 20% of total research and the trend is for it to decrease. Many states < 10%

Land-Grant and Other Universities

- 31 Animal Science Departments
- 3 Animal & Dairy Science Departments
- 2 Animal & Poultry Science Departments
- 3 Dairy Science Departments
- 6 Poultry Science Departments
- 45 Total

Disturbing Trends

- Significant decline in MS and PhD degrees in animal science.
- 30 out of 31 animal science departments surveyed last year have significantly reduced their animal herds.
- Significant faculty downsizing in animal science departments.

We Should all be Very Concerned!

Continued erosion of support of research, both basic and applied, will empty the pipeline of top scientists contributing to animal and poultry agriculture and put the entire field of animal , poultry and meat science in jeopardy!

We are being told that we have to provide the science to help *“Feed the World”* but we are not being provided the tools!

(True For All Agriculture)

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