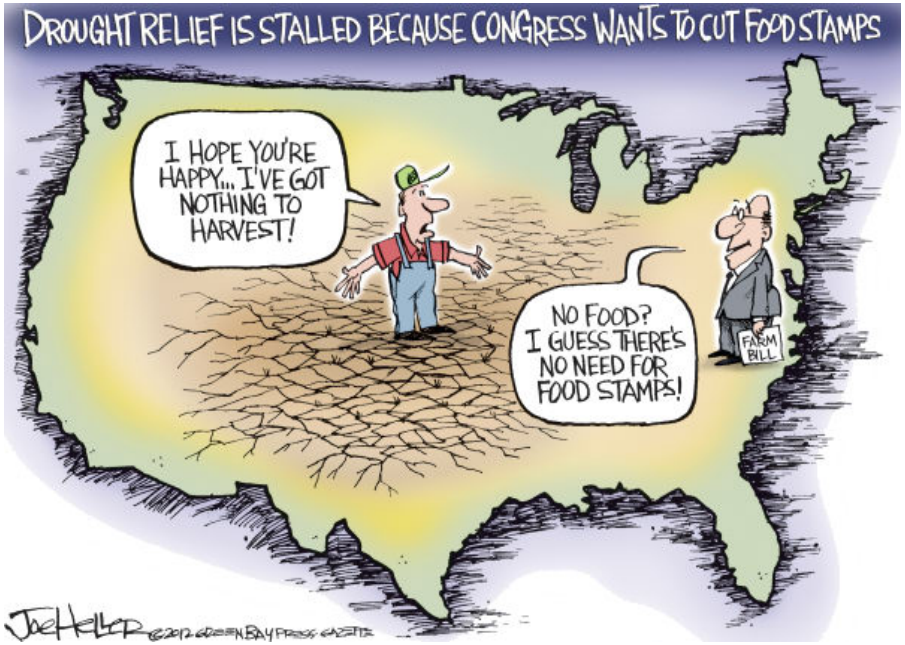
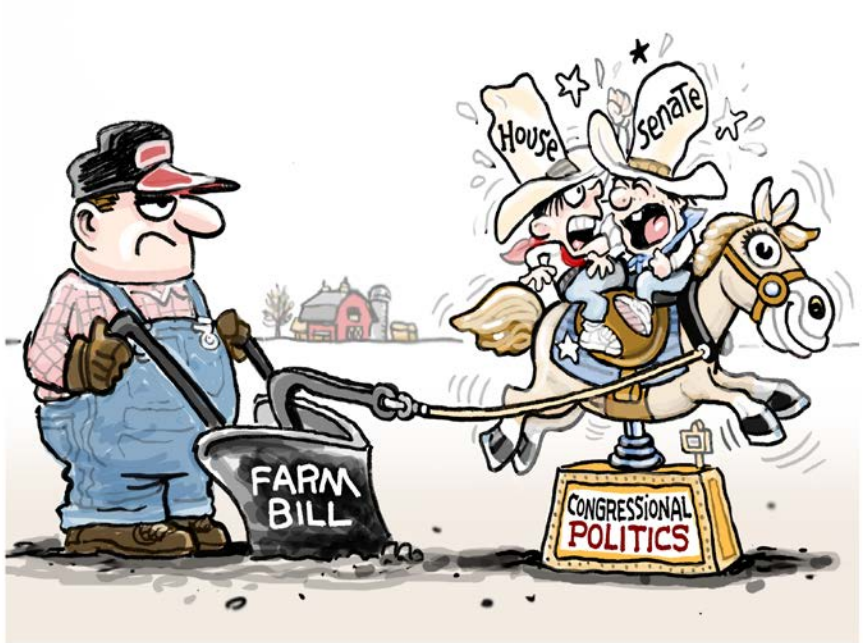


2018 Farm Bill



California & Western States' Priorities

Dr. Glenda Humiston

July 5, 2016

UC Cooperative Extension

- 200+ local Advisors who live and work in the communities they serve
- 130+ Campus-based UCCE Specialists

Agricultural Experiment Station

- 650+ academic researchers across the entire UC system

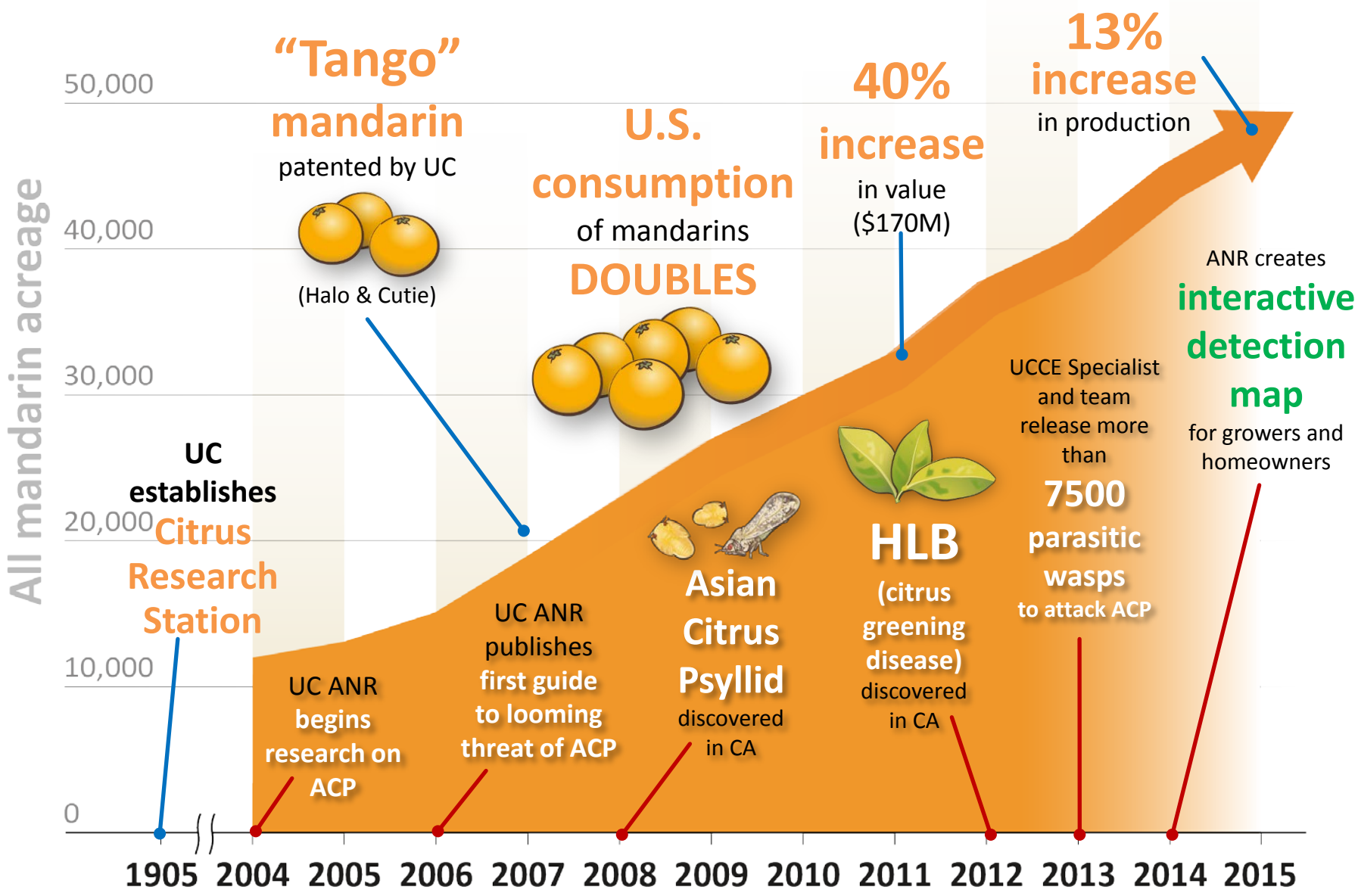
Research and Extension Centers

- 9 locations statewide

Statewide Programs & Institutes

- Ag Issues Center
- Informatics and GIS
- Integrated Pest Management Center
- Nutrition Policy Institute
- Sustainable Ag Research & Education
- Water Research Institute
- Youth Development and 4-H

University of California
Agriculture and Natural Resources


All mandarin acreage
50,000
40,000
30,000
20,000
10,000
0
1905
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
UC establishes Citrus Research Station
"Tango" mandarin patented by UC
(Halo & Cutie)
U.S. consumption of mandarins DOUBLES
40% increase in value ($170M)
13% increase in production
UC ANR begins research on ACP
UC ANR publishes first guide to looming threat of ACP
Asian Citrus Psyllid discovered in CA
HLB (citrus greening disease) discovered in CA
UCCE Specialist and team release more than 7500 parasitic wasps to attack ACP
ANR creates interactive detection map for growers and homeowners

The world in 2030:

Almost 8 billion people

Temperature increase: > 1 degree

Energy consumption: projected to be 50% higher

Water demand: projected to be 50% higher

Little wilderness, new diseases....

Competition for land intense....

Food demand: projected to increase by > 40%

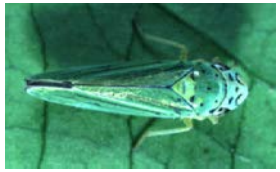
Polyphagous shot hole borer (PSHB), a native of Asia, is killing thousands of trees in Orange, Los Angeles, and San Diego counties: ornamental trees in urban landscapes, avocado and other agricultural trees, and native trees in wildlands.

Potato Aphids on Fresh Market Vegetables

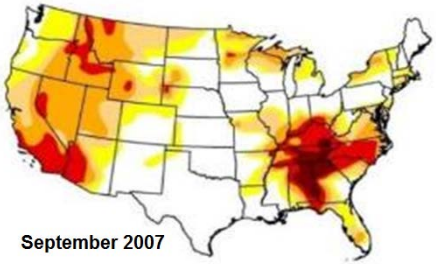
California Red Scale Damages Citrus

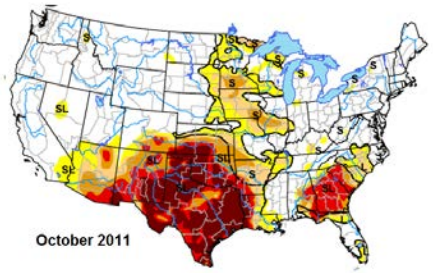
Seeking Methyl Bromide Alternatives for Strawberries

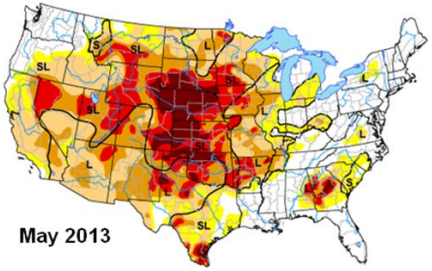
Blue-Green Sharpshooter and Pierce's Disease

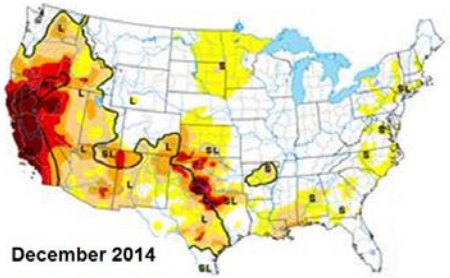


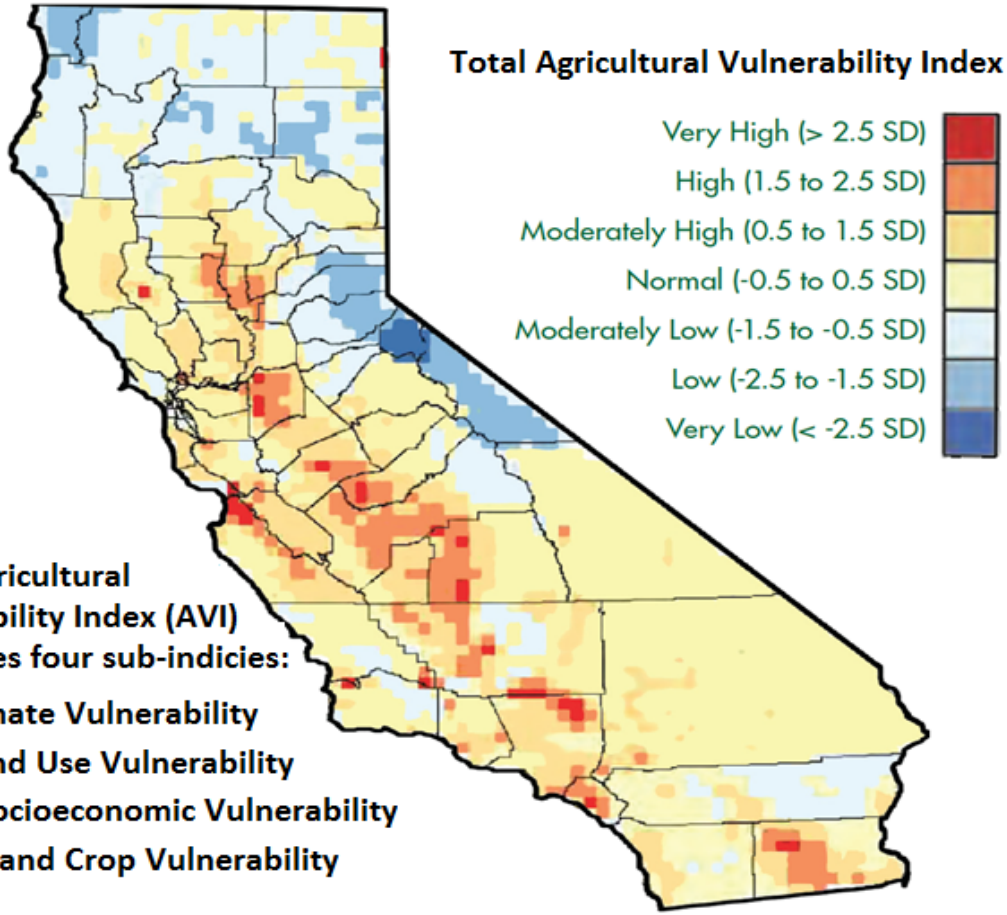
Water Insecurity and Climate Change is a Challenge











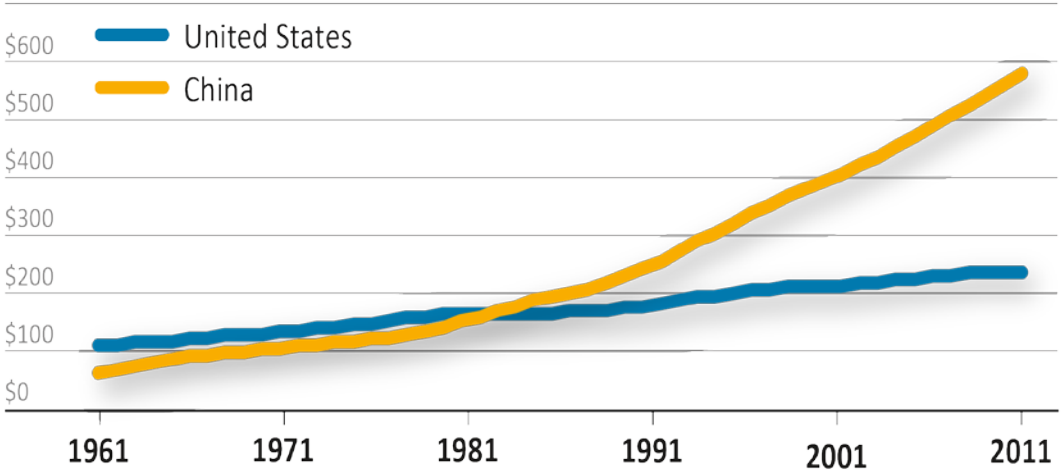
Total Agricultural Vulnerability Index (AVI) integrates four sub-indicies:

- **Climate Vulnerability**
- **Land Use Vulnerability**
- **Socioeconomic Vulnerability**
- **and Crop Vulnerability**

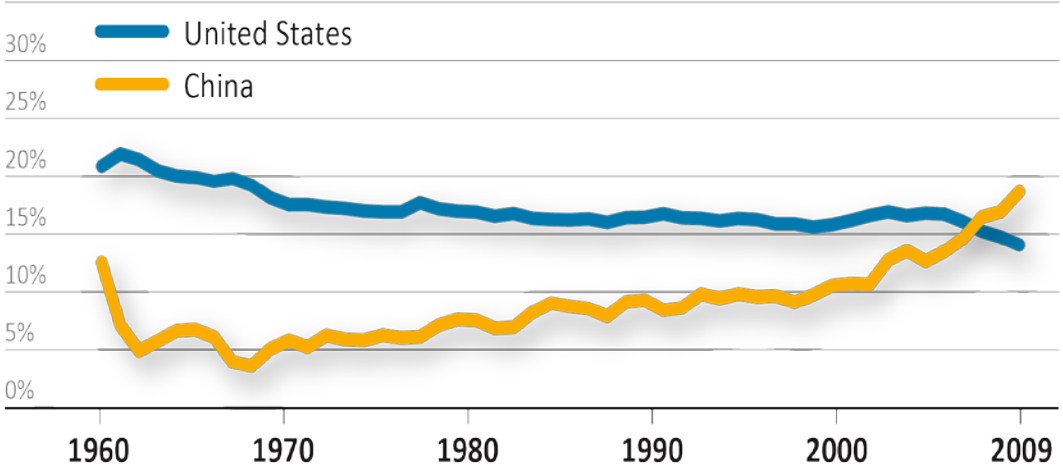
SOURCE: 2012 White Paper from California Energy Commission's Climate Center and University of California, Davis

Decreasing investment in U.S. agricultural research affects productivity and resilience.

Total National Gross Agricultural Production[1]



Share of Total Global Public Agricultural Research



[1]Valued at constant, global-average prices from 2004-2006, expressed in 2005 international dollars and measured in millions

SoAR Foundation, 2016. "Retaking the field: The case for a surge in agricultural research". Available at: bit.ly/1S47aKX

Allocation of USDA Capacity $$ uses Questionable Formulas

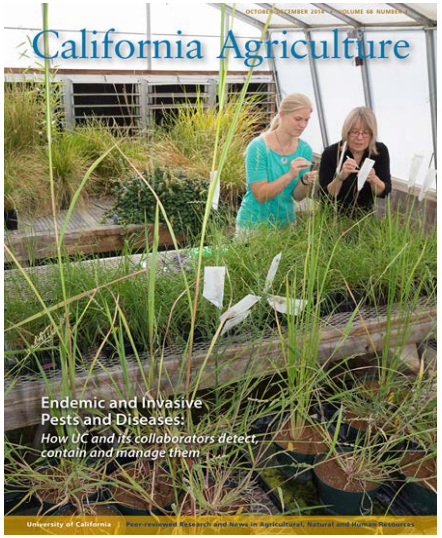
Hatch Act

Rank	Institution	State	Allocation
1	Texas A&M University	TX	7,078,789
2	North Carolina State University	NC	6,405,787
3	Ohio State University	OH	6,336,301
4	Pennsylvania State University	PA	5,998,986
5	University of Illinois	IL	5,477,012
6	Iowa State University	IA	5,436,669
7	Michigan State University	MI	5,264,547
8	Purdue University	IN	5,243,493
9	University of Wisconsin	WI	5,209,146
10	University of Kentucky	KY	5,203,138
11	University of Minnesota	MN	5,151,950
12	University of Missouri	MO	5,108,925
13	University of Tennessee	TN	4,931,645
14	**University of California**	**CA**	**4,682,016**
15	University of Georgia	GA	4,437,852
16	Cornell University	NY	4,389,464
17	Virginia Polytechnic & State U.	VA	4,195,202
18	Auburn University	AL	3,905,813
19	Mississippi State University	MS	3,795,524
20	University of Puerto Rico	PR	3,608,746

Smith-Lever

Rank	Institution	State	Allocation
1	Texas A&M University	TX	13,183,693
2	North Carolina State University	NC	11,821,764
3	Ohio State University	OH	11,208,168
4	Pennsylvania State University	PA	10,582,584
5	University of Illinois	IL	9,728,012
6	Iowa State University	IA	9,564,584
7	University of Kentucky	KY	9,330,579
8	Michigan State University	MI	9,186,571
9	Purdue University	IN	9,136,924
10	University of Wisconsin	WI	9,090,307
11	University of Missouri	MO	9,055,768
12	University of Minnesota	MN	9,005,826
13	University of Tennessee	TN	8,883,852
14	Cornell University	NY	8,452,774
15	University of Georgia	GA	8,085,348
16	**University of California**	**CA**	**7,940,241**
17	Virginia Polytech & State Univ.	VA	7,378,869
18	Auburn University	AL	7,093,116
19	Mississippi State University	MS	7,012,000
20	University of Puerto Rico	PR	6,449,786

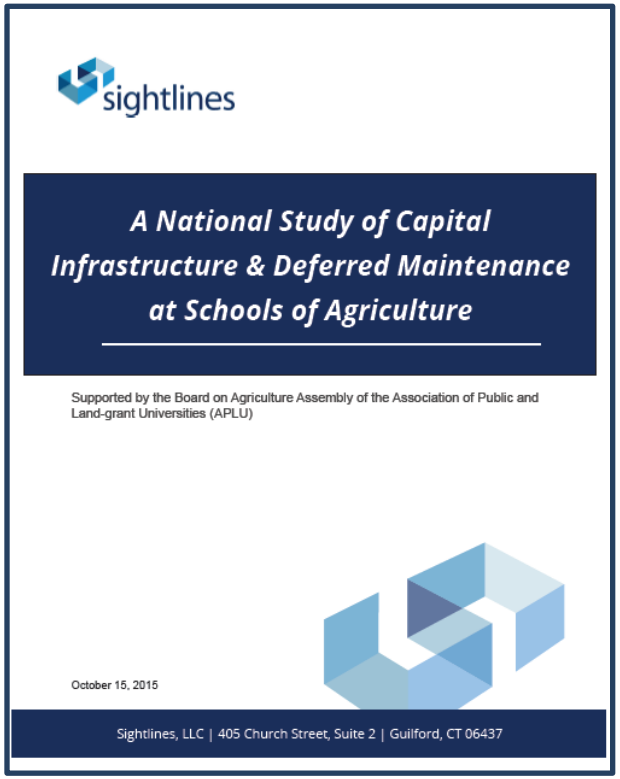
While competitive funding processes elicit new ideas that had not been envisioned by farmers, politicians or bureaucrats, their downside is that they are costly in terms of preparing and reviewing proposals. They also encourage a shift from programmatic research towards shorter-term project research.



It still takes 7 to 10 years of R&D to turn out a new crop variety, and lags in deploying/adapting new agricultural technologies can be decades.

Wright, B.D. “The Economics of Invention Incentives: Patents, Prizes, and Research Contracts.” American Economic Review 73(4)(1983): 691-707.

Deferred Maintenance & Obsolete Facilities Hamper Agricultural Research


sightlines

A National Study of Capital Infrastructure & Deferred Maintenance at Schools of Agriculture

Supported by the Board on Agriculture Assembly of the Association of Public and Land-grant Universities (APLU)

October 15, 2015

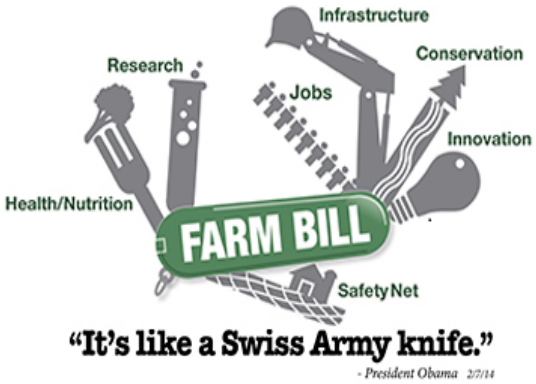
Sightlines, LLC | 405 Church Street, Suite 2 | Guilford, CT 06437

www.aplu.org/projects-and-initiatives/agriculture-human-sciences-and-natural-resources/DeferredMaintenance_SchoolsofAg.pdf

Highlights of Key Findings

- $8.4 billion in total deferred maintenance
- Replacement value of these buildings is $29 billion.
- $6.7 billion in deferred maintenance in facilities over 25 years old

…for every extra dollar invested in R&D over baseline funding in the 2014 Farm Bill, the CBO estimates that 30 to 50 additional dollars will go to public subsidies for new crop insurance and “shallow loss” risk management programs.”



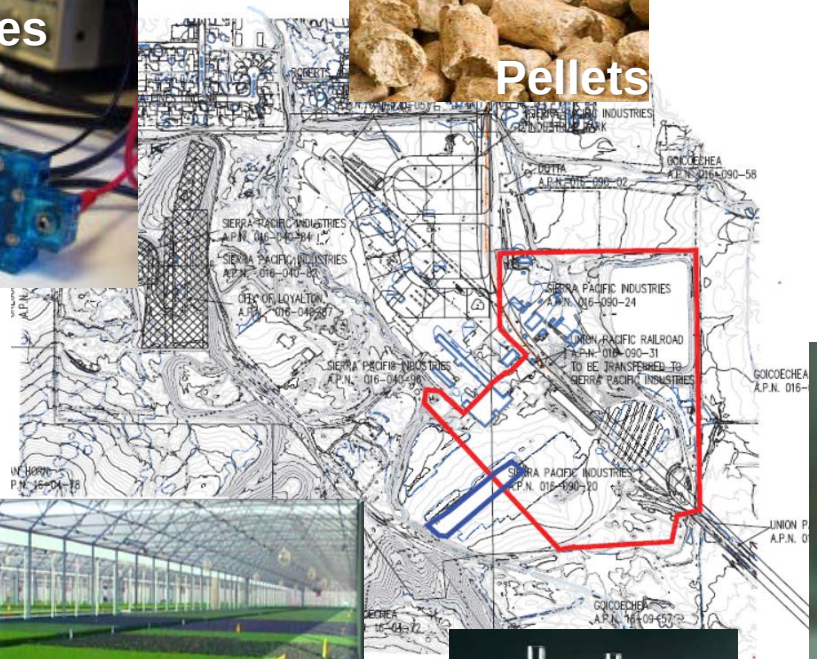
While investing in R&D increases productivity and other economic gains, public support to crop insurance largely redistributes the existing economic pie, with a large share of those crop insurance subsidies being pocketed by insurance intermediaries, not farmers.

Smith, V.H. and J.W. Glauber. “Agricultural Insurance in Developed Countries.” Applied Economic Perspectives and Policy 34(3)(2011): 363-390.

Program Name	FY 2018 Funding ($M)	FY 2019 and Beyond Funding ($M)*
Organic Research & Extension	$20M	$0M
Specialty Crops Research	$80M	$80M
Beginning Farmer & Rancher	$20M	$0M
Biomass R&D	$0M	$0M

*** Note:** The mandatory funding for three of these programs is **not** included in the Congressional Budget Office (CBO) baseline beyond FY 2018.

Research Campus on High-Value Biobased Products would support forest health and drive economic development opportunities.



…and more!

Supporters of Agricultural Research (SoAR) Foundation are a non-partisan coalition working to educate stakeholders about the importance of agricultural research and focus more of our best minds on feeding the world.

http://supportagresearch.org/retakingthefield/

"An increase in public agricultural research investment from Congress will provide outsized dividends — $20 for every $1 of federal funds invested, according to the USDA's Economic Research Service."

The Western Perspective & The Western Agenda

www.waaesd.org/the-western-agenda

- ✓ Sustainable Production Systems: Food Production, Food Safety, Food Security, Forestry, and Horticulture
- ✓ Natural Resources: Water, Wildlife, Wildfire, Invasive Species, Ecosystem Services, and Economic Opportunities
- ✓ Energy
- ✓ Community and Economic Development
- ✓ Youth Development: Agriculture, Nutrition, and Natural Resources Science Literacy
- ✓ Nutrition and Health: Innovation in Foods for Health

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http://ucanr.edu/