ILLINOIS PUBLIC AGRICULTURAL RESEARCH

"A Consensus Report of Illinois Agricultural Producer Leaders and University Agricultural Research Administrators"

Preliminary Task Force Report
December, 2011

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INTRODUCTION

This report is the output of a special task force formed to address the challenge:

> *"How can we re-energize the public agricultural research model in Illinois in an environment with diminishing resources?"*

This question was raised by producer organizations in the state concerned about the future for this valuable resource to sustain and enhance the future viability of the agriculture industry in Illinois.

The task force was established to be producer-driven, but inclusive with participation from our four state schools of agriculture and other key state agricultural stakeholders. A list of the task force partners and participants is included in Appendix A. A list of the task force meeting dates can be found in Appendix B.

The Illinois Public Agricultural Research Task Force was initially charged with the following deliverables:

- Re-energize the research model for ag research in Illinois in an environment with diminishing resources.
- Identify opportunities to improve efficiency of Ag research dollars and efforts.
- Enhance communication and understanding between universities and ag organizations of the ag research complex.
- Identify priorities, from farm/commodity organization perspective, over next 5-10 years. This should be closely coordinated with C-FAR caucus priorities.
- Identify drivers of Ag Research in the future and conduct a competitive analysis based on these drivers.

Initial information requirements were to include, but were not limited to:

- Defining the current alignment of the public agricultural research model.
- Five-year history of public ag research expenditures and funding by source.
- Research staff by type, including projected retirements.
- Agriculture student enrollments.
- Current research facilities and projected needs.
- Anticipated drivers of future research activities.
- Competitive analysis of the current and projected agricultural research funding environment.
- Future opportunities to influence funding of public agricultural research.

The twelve state North Central Region of 1862 Land Grant Universities presents fertile opportunity for leveraging agricultural research efforts. This area represents a $125 billion agricultural industry with 2.4 million plus jobs. Agriculture and agbioscience are directly relevant to finding solutions to key challenges facing the U.S. and the world -- economic growth, food security, human health, and environmental sustainability. (Power & Promise: Agbioscience in the North Central United States, by Batelle April 2011)

EXECUTIVE SUMMARY

Research Expenditures by University, 2006-2010

1. The general trend over the five year period is a modest increase, particularly in 2009 and 2010. However, state funding has declined and federal funding is more volatile, causing universities to adjust.

2. The outlook for access to future funding opportunities for public agricultural research is more pessimistic.

3. Overall during the five year period, the University of Illinois accounted for slightly more than 80% of the research expenditures and Southern Illinois University represented around 15% of the total state research expenditures.

4. C-FAR funding ended in 2011. Efforts to renew C-FAR are underway, but not completed.

5. Tuition is increasing as a percentage of the state funding for all universities. Tuition is projected to be the major source of university base funds in the next decade.

6. Commodity/producer funding has increased since 2006.

Research Expenditures by Illinois FY from Major Funding Source Categories

University of Illinois at Urbana-Champaign

Funding Source	State FY 2006	2007	2008	2009	2010
			($ in millions)		
Federal	$22,442	$22,352	$22,471	$20,701	$20,370
State	$18,635	$20,583	$20,521	$20,052	$18,281
Other External	$11,061	$10,943	$12,148	$17,802	$18,680
Total	$52,138	$53,878	$55,140	$58,554	$58,330

Research Expenditures by Illinois FY from Major Funding Source Categories

Southern Illinois University Carbondale

Funding Source	2006	2007	State FY 2008	2009	2010
			($ in millions)		
Federal	$0.466	$0.617	$0.920	$1,012	$1,185
State	$7,447	$7,269	$7,235	$7,556	$7,538
Other External	$1,658	$1,527	$1,642	1,976	$2,378
Total	$9,572	$9,413	$9,797	$10,544	$11,101

Research Expenditures by Illinois FY from Major Funding Source Categories

Illinois State University

Funding Source	2006	2007	State FY 2008	2009	2010
			($ in millions)		
Federal	$1,258	$0.337	$0.000	$0.492	$0.133
State	$0.456	$0.424	$0.572	$0.410	$0.510
Other External	$0.027	$0.559	$0.261	$0.094	$0.119
Total	$1,740	$1,320	$0.834	$0.996	$0.762

Research Expenditures by Illinois FY from Major Funding Source Categories

Western Illinois University

Funding Source	2006	2007	State FY 2008	2009	2010
			($ in millions)		
Federal	$0.115	$0.318	$0.075	$0.020	$0.528
State	$0.086	$0.113	$0.113	$0.055	N/A
Other External	$0.000	$0.000	$0.000	$0.026	N/A
Total	$0.201	$0.431	$0.188	$0.101	$0.528

Funding Trends for Public Agricultural Research in Illinois

1. State and aggregate federal funding is declining and will likely continue to decline in the foreseeable future. The consequence of reduction in state funding is a loss of human capital – ie, professors to conduct research.

2. Producer funding from check-off investments will level off, become more focused and tend to fund fewer, but larger, projects. This is a result of a shift in priorities for the use of available resources.

3. The landscape has changed over the last several years for public companies in funding decisions for research. There is a greater focus on return on investment for research expenditures. Strategy differences among companies will make research funding choices company dependent for allocations between in-house projects versus university based projects and be impacted by business cyles.

4. Private source funding (including individuals, foundations, endowments, etc.)will increase in both number of grants and aggregate dollars.

5. The Illinois fertilizer and chemical industry may add funding to the public agricultural research pool in Illinois in the future. Legislation is pending which, if passed and approved, would create the Nutrient Research and Education Council to levy and collect tonnage fees from fertilizer distributors in the state. This group would replace the existing Fertilizer Research and Education Council. These funds would be allocated annually for nutrient research, education, and water quality programs in the agricultural sector.

Funding Dynamics

1. A larger share of producer dollars allocated for research may be directed to more applied research projects.

2. Corporate and producer groups will increase research and education funding toward regulatory and policy issues.

3. University faculty will continue to look for funding from diverse and non-traditional sources, including an increased emphasis on competitive grants. Strategic partnerships are becoming important to leverage resources. Large competitive grants will be more multi-disciplinary in nature and lead researchers to form partnerships to compete for the grants and to execute the research. Year to year variations in the overall composition of funding for universities will be greater because of increased reliance on competitive grants.

4. Student demand will exert relatively greater influence on the choices of areas to which universities direct future investments, due to the increasing reliance on tuition in higher education budget models.

5. Each Illinois university has its own strengths and contributions toward agricultural research. Competition among schools across the nation, as well as in Illinois, will impact the funding results of each.

6. We are entering a new period where the aggregate level of future funding for agricultural research from all sources combined is expected to decline. Therefore, ag researchers will look to non-ag sources, such as NIH, NSF, DOD, and DOE, to attract/supplement research funding.

7. Agricultural research is often at a disadvantage in competition for funding with broad-based societal issues because of a focus on long-term rather than short-term results.

8. The agriculture industry needs a more holistic view of the future model for public ag research in Illinois. The industry is encouraged to develop a collaborative needs assessment for a future agriculture research agenda.

9. Collaborative research activity is increasing across university campuses, among schools, and across state lines, driven by funding organizations and a larger proportion of competitively funded grants.

10. The new strategic plan for the Illinois Soybean Association emphasizes projects that impact soybean production and profitability for Illinois producers.

11. The Illinois Corn Marketing Board focuses on research projects that increase corn utilization long term.

12. The Illinois Beef and Pork Associations have funded quality research in the past and will likely do so in the future as available resources permit.

Key Issues

1. If producer groups are going to be asked to help attract and leverage funding for public agricultural research, then the research agenda will need to reflect potential future benefits for farmers.

2. Strategic partnerships and leveraging opportunities will be essential in future funding strategies for public agricultural research in Illinois. The Illinois agriculture community will need to work together to influence future increased and dependable funding levels from all potential sources.

3. The decline in state funding negatively impacts the ability to sustain and replenish public agricultural research capacity (particularly research personnel and facilities) in Illinois. This has serious implications for the future competitive positioning and research capability of our state universities. How can Illinois agriculture assure the availability of adequate and quality research capacity to support future research efforts?

4. Researchers will go where they have the potential to attract funding. Farmers can influence research agendas through funding of research projects from checkoff programs.

5. How do we restore vision to the state of Illinois public ag research program and ensure relevance to the agricultural community with a sound value proposition to stakeholders?

6. Universities should assess the balance and linkage among their roles of research, teaching, and extension/outreach to stakeholders. Consideration should be given to the nature and effectiveness of feedback channels from producers and other constitutencies.

7. What value does society as a whole assign to public agricultural research and the link between education and research?

Conclusion

The Illinois agricultural sector (including producers, ag business, and public universities) should collaborate to develop and agree upon a future focused priority agricultural research agenda. This effort should align the needs of all stakeholders, provide the basis for "right sizing" the Illinois agricultural research platform, justify funding investments by both public and private sources, and clearly communicate the value of past and future efforts of this endeavor.

Recommended Actions

1. Share the results of this task force report to inform key stakeholders and decision makers about the status, nature, and trends in funding public agricultural research in Illinois. The report also outlines actions needed to assure a viable future for public agricultural research in Illinois.

2. Conduct a cooperative evaluation of the public agricultural research program in Illinois, including impact, capabilities, and opportunities, utilizing an independent outside organization.

3. A collaborative effort of key Illinois agriculture stakeholders along with the four Illinois university schools of agriculture is needed to determine and define a long-term agreed upon vision for future public agricultural research efforts in Illinois. (Repositioning for the future)

4. Excite, energize, and engage key stakeholders (including state policy makers) to take actions necessary to shape and support a common vision for a future agenda for public agricultural research in Illinois. Widely recognized "champions" of the repositioned research should be part of the process to bring attention and credibility to the plan (i.e., a Blue Ribbon panel).

5. The ag industry in Illinois should develop, implement, and support a strategy to promote careers in agriculture, attract students to enroll in state agriculture colleges/departments/curricula and connect students in aligned fields of study with agricultural interests.

APPENDIX

Task Force Meeting Dates

- July 18, 2011
- September 2, 2011
- October 25, 2011 (Working Committee)
- November 29, 2011

Task Force Partners

Organization	Participants
Archer Daniels Midland	Dr. Charles Abbas
C-FAR	Chuck Cawley
Illinois Beef Assoc.	Maralee Johnson
Illinois Corn Marketing Board	Leon Corzine Rodney Weinzierl
Illinois Farm Bureau/ Vision for Illinois Agriculture	Philip Nelson Chris Magnuson
Illinois Fertilizer and Chemical Assoc.	Jean Payne
Illinois Milk Producers Assoc.	Jim Fraley
Illinois Pork Producers Assoc.	Mike Haag Jim Kaitschuk
Illinois Soybean Assoc.	Dean Campbell Dan Farney Ross Prough Dan Davidson
Illinois State University	Dr. Rob Rhykerd
Illinois Wheat Association	Ken McClintock
Monsanto Co.	Connie Armentrout
Southern Illinois University	Dr. Karen Jones
University of Illinois	Dr. Joe Kokini Dr. Richard Vogen
USDA NCAUR	Dr. Paul Sebesta
Western Illinois University	Dr. Bill Bailey

John Huston -- Consultant, Retired National Livestock and Meat Board
Vern McGinnis -- Retired GROWMARK, Inc.

Research Funding Sources by State Fiscal Year
Expenditures Each Fiscal Year

Institution: University of Illinois at Urbana Champaign

	2006	2007	2008	2009	2010
Federal					
USDA - Formula	5,250,223	5,219,248	6,788,777	6,181,070	5,141,122
USDA - Other	7,458,994	7,352,386	6,048,017	6,880,870	6,289,499
National Science Foundation	1,267,499	1,113,331	1,054,577	1,081,481	1,398,414
National Institutes of Health	2,871,223	2,723,767	1,756,874	1,901,650	1,096,062
National Institute on Aging	129,072	245,180	1,072,393	924,902	1,221,618
National Institute of Mental Health	619,195	595,937	700,453	378,088	895,997
National Institute of CHHD	374,786	293,731	218,360	274,170	651,836
Department of Defense - CERL	316,230	357,080	488,574	305,685	168,137
Other	4,154,351	4,450,991	4,343,096	2,772,941	3,506,908
Subtotal	**22,441,574**	**22,351,650**	**22,471,119**	**20,700,858**	**20,369,594**
State					
University Approp (State/Tuition)	15,257,550	15,994,228	16,340,605	16,014,372	15,854,593
C-FAR	2,496,874	2,557,330	3,004,379	2,622,573	2,436,093
Other	880,477	2,031,880	1,176,044	1,414,719	990,322
Subtotal	**18,634,901**	**20,583,438**	**20,521,029**	**20,051,663**	**19,281,008**
Other External (Grant/Contract/Gift)					
Commodity/Producer	1,327,337	2,435,122	3,957,725	5,039,610	5,303,037
Industry	831,992	719,190	666,995	1,415,756	1,617,135
Industry - BP/EBI	-	-	1,441,527	5,058,506	6,092,686
Gifts/Faculty Targeted	2,310,227	2,159,061	2,440,235	2,943,914	2,910,408
Other	6,591,480	5,630,009	3,641,700	3,344,186	2,756,498
Subtotal	**11,061,036**	**10,943,382**	**12,148,182**	**17,801,973**	**18,679,764**

TOTAL	**52,137,511**	**53,878,470**	**55,140,330**	**58,554,494**	**58,330,365**

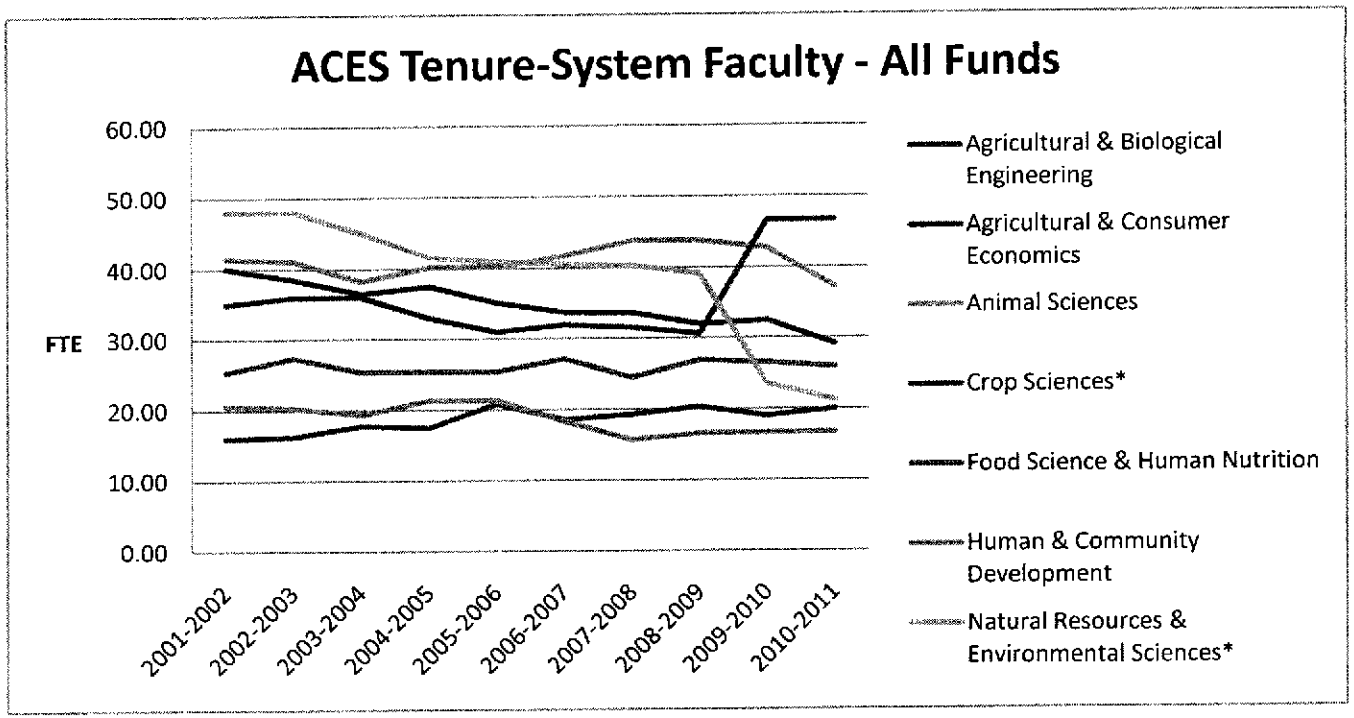
Note: Analysis is not intended to show all funds assigned for research purposes. Rather, these data indicate major categories of research expenditures for trends and general comparisons. Expenditure data per fiscal year, excludes some sources of funds used for research purposes, e.g. grant indirect cost recovery, revolving income from operations, account transfers, etc.

Note: Federal funds indicate formula funds, which only apply to the Illinois Agricultural Experiment Station, administered at the University of Illinois. Other USDA programs are consolidated, and research funding from other major federal agencies are shown separately. All other federal sources are consolidated.

Note: Under State sources for research, University appropriations refers to expenditures contained in the University's base budget from the Illinois Board of Higher Education, which is comprised of general revenue funds and tuition income funds. C-FAR is shown separately, and note that expenditures of funds obligated from previous years continued after appropriations ceased. External award program managed by the University of Illinois is handled as subaward activity and is included in these figures.

Note: Other external categories generally include various private sources. For this audience, expenditures from commodity or producer organizations was separated from other industry sources to the extent possible. Although external funding for research is provided in various forms, with different contractual terms, all forms are consolidated for this comparison.

Note: A separate entry is provided for the BP/EBI (Energy Biosciences Institute).


ACES Tenure-System Faculty - All Funds
60.00
50.00
40.00
30.00
20.00
10.00
0.00
FTE
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
Agricultural & Biological Engineering
Agricultural & Consumer Economics
Animal Sciences
Crop Sciences*
Food Science & Human Nutrition
Human & Community Development
Natural Resources & Environmental Sciences*

University of Illinois

Tenure-System Faculty FTE - All Funds	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Agricultural & Biological Engineering	16.00	16.30	17.81	17.48	20.81	18.55	19.25	20.35	19.00	20.00
Agricultural & Consumer Economics	40.11	38.55	36.50	37.50	35.17	33.75	33.62	31.97	32.45	29.10
Animal Sciences	41.50	41.12	38.25	40.25	40.25	41.75	43.75	43.75	42.75	37.25
Crop Sciences*	35.00	36.00	36.00	33.00	31.00	32.00	31.60	30.60	46.60	46.60
Food Science & Human Nutrition	25.39	27.39	25.39	25.39	25.39	27.18	24.51	26.88	26.51	25.89
Human & Community Development	20.65	20.35	19.35	21.35	21.35	18.35	15.65	16.53	16.65	16.65
Natural Resources & Environmental Sciences*	48.05	48.05	45.05	41.62	41.00	40.58	40.30	39.10	23.55	21.22
College of ACES - Total**	234.18	233.93	225.13	230.22	228.86	222.01	219.78	221.78	218.45	206.84
College of Veterinary Medicine	76.88	70.18	72.02	70.57	63.93	57.01	67.34	66.00	61.16	54.72

*Horticulture moved from NRES to Crop Sciences in 2009-2010

** Total includes faculty FTE in College administrative roles

Source: http://www.dmi.illinois.edu/

Research Funding Sources by State Fiscal Year
Expenditures Each Fiscal Year ($)

Institution: Southern Illinois University Carbondale

	2006	2007	2008	2009	2010
Federal					
USDA - Formula[1]	39,766	156,281	94,762	135,559	206,030
USDA - Other	404,032	444,794	745,859	526,798	567,701
NIH	0	0	0	0	0
NSF	7,430	419	0	0	0
Other	14,764	15,418	78,890	349,844	411,649
Subtotal	465,992	616,912	919,512	1,012,201	1,185,381
State					
University Approp (State/Tuition)[2]	5,761,919	6,016,688	6,087,897	6,585,314	6,603,300
C-FAR[3]	670,701	497,265	564,475	536,218	764,577
Other	1,014,575	755,537	582,881	434,235	170,010
Subtotal	7,447,195	7,269,490	7,235,254	7,555,767	7,537,887
Other External (Grant/Contract/Gift)					
Commodity/Producer	1,270,704	1,126,452	877,153	1,371,847	1,183,097
Industry	30,502	151,946	417,387	375,530	495,491
Other	357,164	248,413	347,950	228,385	699,391
Subtotal	1,658,369	1,526,811	1,642,491	1,975,762	2,377,979
TOTAL	9,571,556	9,413,213	9,797,256	10,543,730	11,101,246

1 McIntire-Stennis to the Forestry program.

2 Personnel base (including graduate assistantships and undergraduate student workers paid by state funds), course fee budget, equipment, and other support.

3 C-FAR account inactive for 2011 with current balance of $0.

Southern Illinois University Tenure Track Faculty Research FTE by Year and Semester

Department		2006			2007			2008			2009			2010		
		Spring	Summer[1]	Fall	Spring	Summer[1]	Fall	Spring	Summer[1]	Fall	Spring	Summer[1]	Fall	Spring	Summer[1]	Fall
ABE	# Faculty	9	4	9	9	4	8	9	0	9	9	0	8	8	0	8
	FTE	3.78	3.40	3.89	4.32	3.33	3.47	4.02	0.00	3.13	3.08	0.00	2.31	2.23	0.00	1.67
	FTE/#Faculty	42.0	85.0	43.2	48.0	83.3	43.4	44.7		34.8	34.2		28.9	27.9		20.9
ASFN	# Faculty	11	6	13	13	3	13	12	2	11	11	3	12.25	12.25	3.25	12.25
	FTE	3.83	2.40	4.52	3.94	1.50	5.32	4.15	1.25	3.40	4.29	0.75	4.85	4.15	3.10	3.00
	FTE/#Faculty	34.8	40.0	34.8	30.3	50.0	40.9	34.6	62.5	30.9	39.0	25.0	39.6	33.9	95.4	24.5
Forestry	# Faculty	10	9	9	9	2	11	11	0	11	9	1	9.5	9.5	3.5	9.5
	FTE	3.20	4.20	3.33	3.32	1.10	4.23	4.35	0.00	3.63	3.61	0.10	4.29	4.98	1.64	3.71
	FTE/#Faculty	32.0	46.7	37.0	36.9	55.0	38.5	39.5		33.0	40.1	10.0	45.2	52.4	46.9	39.1
PSAS	# Faculty	20	9	19	19	6	19	19	5	18	19	7	19	19	3	17
	FTE	7.39	6.73	7.94	6.79	4.35	6.71	6.38	2.90	7.66	8.16	4.50	7.72	7.91	2.25	6.61
	FTE/#Faculty	37.0	74.8	41.8	35.7	72.5	35.3	33.6	58.0	42.6	42.9	64.3	40.6	41.6	75.0	38.9

1 Most faculty are on 9 month appointments. Only faculty with reported research effort were included in summer month tabulations.

Research Funding Sources by State Fiscal Year
Expenditures Each Fiscal Year

Institution: Illinois State University

	2006	2007	2008	2009	2010
FTE (Tenure/tenure track lines only)					
Teaching	8.75	8.75	8.75	8.75	8.75
Research	3.5	3.5	3.5	3.5	3.5
Administration	0.75	0.75	0.75	0.75	0.75
Total	13	13	13	13	13
Federal					
Illinois Environmental Protection Agency (Source: U.S. Environmental Protection Agency)	$267,717.00				
U.S. Department of Agriculture		$337,237.50			$33,028.00
U.S. Department of Energy	$990,000.00			$492,000.00	$99,941.00
Subtotal	$1,257,717.00	$337,237.50	$0.00	$492,000.00	$132,969.00
State					
General Reveneu (Faculty salaries in support of research)	$ 192,247.00	$ 211,925.00	$ 203,132.00	$ 227,539.00	$ 237,663.00
Facilitating Coordination in Agricultural Education (Source: Illinois State Board of Education)		$2,500.00			
Illinois Council on Food & Agriculture Research			$149,656.00	$91,572.00	$18,295.00
Illinois Department of Agriculture	$139,871.00	$150,705.00	$203,005.00	$29,000.00	$49,000.00
Illinois Department of Commerce and Economic Opportunity					$123,750.00
Illinois State Board of Education	$41,515.00	$16,517.00	$16,618.00	$62,036.00	$60,000.00
University of Illinois (Source: Illinois Council on Food and Agricultural Research C-FAR)	$81,872.00	$42,064.00			$21,720.00
Subtotal	$455,505.00	$423,711.00	$572,411.00	$410,147.00	$510,428.00
Other					
1st Farm Credit Services	$3,000.00				
Cooperative Research Farms		$26,950.00	$1,000.00		
Illinois Clean Energy Community Foundation			$232,600.00		
Illinois Corn Marketing Board					$24,905.00
Illinois Department of Agriculture					$1,359.65

Research Funding Sources by State Fiscal Year
Expenditures Each Fiscal Year

Institution: Illinois State University

		2006	2007	2008	2009	2010
Illinois Prairie Community Foundation - Marion McDowell Stafford Fund			$1,800.00			
Illinois Soybean Association			$10,000.00		$60,750.00	
McLean County Pork Producers Association					$2,000.00	
National Pork Board						$15,600.00
Propane Education and Research Council (PERC)			$485,320.00			
Syngenta Seeds, Inc.						$2,500.00
Town of Normal		$24,000.00	$24,000.00	$25,200.00	$26,460.00	$27,785.00
	Subtotal	$27,000.00	$548,070.00	$258,800.00	$89,210.00	$72,149.65
Corporate						
Archer Daniels Midland Company			$10,780.00			
Enercon/Sobrite						$20,983.00
LiveLeaf BioScience						$25,850.00
Syngenta Seeds, Inc.				$2,500.00	$5,000.00	
	Subtotal	$0.00	$10,780.00	$2,500.00	$5,000.00	$46,833.00
TOTAL		**$1,740,222.00**	**$1,319,798.50**	**$833,711.00**	**$996,357.00**	**$762,379.65**

Research Funding Sources by State Fiscal Year
Awards Each Fiscal Year

Institution: Western Illinois University — Monthly (FTE)

	2006		2007		2008		2009		2010	
Federal										
USDA - Formula										
USDA - Other	85855	(2.0)			75000	(2.0)			500000	(1.3)
NIH										
NSF										
Other										
Illinois Soybean Operating Board	29186	(.50)	19000	(.50)			20000	(.50)	28500	(.50)
US Dept. of Education	64288	(.70)								
US Agency for International Development			298662	(.05)						
Subtotal	115041		317662		75000		20000		528500	
State										
University Approp (State/Tuition)	?		?		?		?		?	
C-FAR	86153	(.25)	113029	(.25)	113029	(.25)	54857	(.25)		
Other										
Subtotal	86153		113029		113029		54857		0	
Other External (Grant/Contract/Gift)										
Commodity/Producer										
Industry							25840	(1.0)		
Other										
Subtotal	0		0		0		25840		0	
Total	201194		430691		188029		100697		528500	

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Agbiosciences in the North Central United States
The Importance of North Central Experiment Stations, Extension Services and their Land-Grant Universities in the Global Bioscience Economy.
Battelle
April 2011

University of Illinois
College of Agricultural, Consumer, and Environmental Sciences
"Illinois Acres" - 2011
"ACES @ Illinois" - Summer 2011

Southern Illinois University, Carbondale
College of Agricultural Sciences
"AgriSearch - Green" 2011
"AgriSearch - Food" 2010
"AgriSearch - Water" 2009
"AgriSearch - Soy 2008