

EVALUATION OF RESEARCH FUNDING IN NORTH DAKOTA STATE UNIVERSITY

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Abstract

In the 2016 annual research report with a commitment of excellence, we supported the efforts of our faculty to obtain external funding to support research and scientific priorities in order to promote their respective academic fields. The North Dakota State University (NDSU), students and staff have been and are encouraged to engage in research that extends the limits of scientific discovery, making a difference in the lives of our citizens. NDSU exemplifies diversity in our research and creative activities, ranging from the use of unmanned aerial vehicles in precision agriculture, controlled delivery of pharmaceuticals, disease resistance in crops, and the expansion of high-performance and advanced-research computing capabilities.

At NDSU, faculty have been encouraged to work together on interdisciplinary teams to solve grand challenges, with a focus on three identified areas: food systems and security; healthy populations and vital communities; and sustainable energy, environment and societal infrastructure. These teams build upon the strengths of the university and also create opportunities for strategic collaborations with industry and other partners, all while being cognizant of the needs in our state.

As we work to continuously enhance the external sponsored funding awarded to the outstanding faculty, students and staff at NDSU, we pause to celebrate the successes of the past year. This report provides an abbreviated quantitative snapshot of FY2016 awards.

Keyword: financial support of the research, education and strategic collaborations

JEL classification: I22, I23

Introduction

With a commitment to excellence, we support the pursuits of our faculty in obtaining external funding to support their research and scholarly activity priorities in order to advance their respective academic fields. Faculty, students and staff at NDSU are encouraged to engage in research that expands the boundaries of scientific discovery, making a difference in the lives of our citizens. NDSU exemplifies diversity in our research and creative activities, ranging from the use of unmanned aerial vehicles in precision agriculture, controlled delivery of pharmaceuticals, disease resistance in crops, and the expansion of high-performance and advanced-research computing capabilities (Manta O., 2017).

Results

At NDSU, faculty have been encouraged to work together on interdisciplinary teams to solve grand challenges, with a focus on three identified areas: food systems and security; healthy populations and vital communities; and sustainable energy, environment and societal infrastructure.

These teams build upon the strengths of the university and also create opportunities for strategic collaborations with industry and other partners, all while being cognizant of the needs in our state.

As we work to continuously enhance the external sponsored funding awarded to the outstanding faculty, students and staff at NDSU, we pause to celebrate the successes of the past year. This report provides an abbreviated quantitative snapshot of FY2016 awards.

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Table 1

Breakdown of external awards and federal formula funds

	FY 2014	FY 2015*	FY 2016
External Awards	\$64,103,594	\$65,486,657	\$70,620,367
<i>Total External Awards</i>	<i>\$64,103,594</i>	<i>\$65,486,657</i>	<i>\$70,620,367</i>
Hatch/McIntire-Stennis Funds	\$3,223,580	\$3,184,546	\$3,184,348
Extension Service Smith-Lever Formula Funds	\$3,906,862	\$3,920,040	\$3,919,415
Student Financial Aid	\$11,210,498	\$11,021,451	\$10,530,068
<i>Total Federal Formula Funds</i>	<i>\$18,340,940</i>	<i>\$18,126,037</i>	<i>\$17,633,831</i>
Grand Total	\$82,444,534	\$83,612,694	\$88,254,198

Source: NDSU

Note: By the numbers, for FY2016, we noted a 7.8 percent increase in external awards over FY15, with growth in the areas of federal and state funding over the previous year. Estimated R&D expenditures reported to the National Science Foundation total \$156.3 million for NDSU in FY2016.

* Adjustments were made to the previously published FY 2015 External Awards total. The adjusted total is included here.

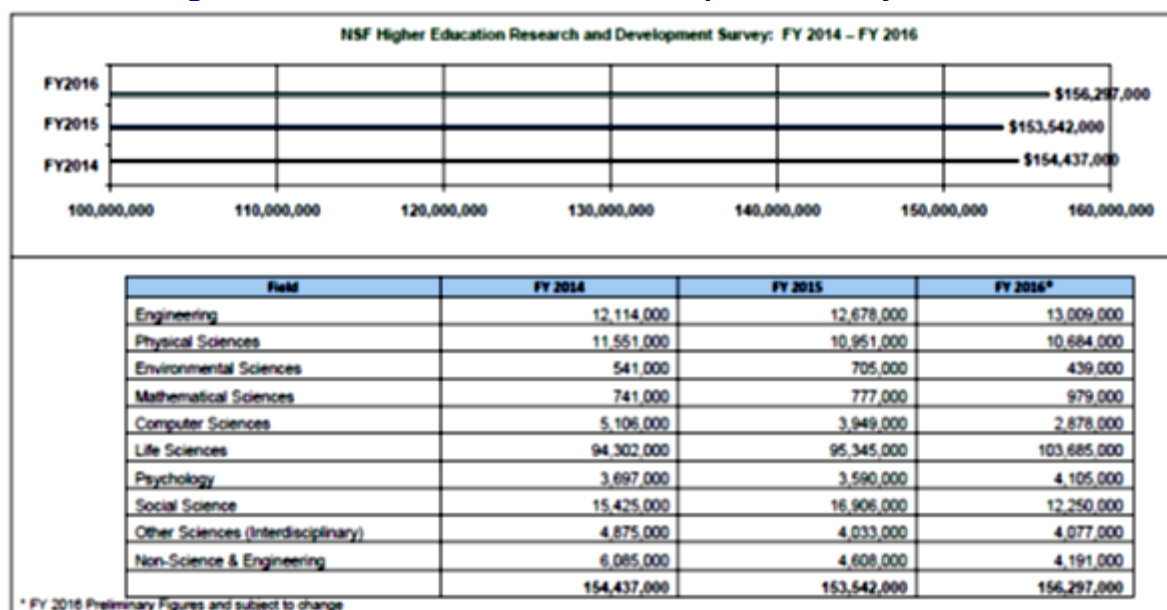
NSF Higher Education Research and Development Survey (HERD)

Each year, the National Science Foundation requests data from universities and colleges on their respective fiscal year research and development expenditures. The survey is developed and conducted by the NSF Division of Science Resources Statistics (SRS) and fulfills the legislative mandate of the National Science Foundation Act to “provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources”. The SRS develops and directs about 14 surveys and annually produces about 30 publications related to resources devoted to science, engineering, and technology. The surveys contribute to decisions affecting higher education, Congress, the executive branch, and education associations using institutional data.

The data represented below is generated from funding awarded to NDSU. Sources of funding include: Federal government, State and local government, industry, institution, and other sources such as non-profit foundations. Institutional funds include state appropriations, tuition and fees, and gifts expended for research and development activities. In addition, un-reimbursed indirect costs and cost sharing are included as part of the institutional data.

Table 2

NSF Higher Education Research and Development Survey FY 2014- 2016



Source: NDSU

Table 3

**Proposals processed through sponsored programs administration
and total dollars requested from external funding sources, FY 2014 - FY 2016**

College/Unit*	FY 2014		FY 2015		FY 2016	
	# Proposals	Requested	# Proposals	Requested	# Proposals	Requested
College of Agriculture, Food Systems and Natural Resources	26	\$1,887,583	9	\$117,396	21	\$361,922
Agriculture Experiment Station and Extension Service	723	\$67,791,645	661	\$64,661,987	619	\$45,345,585
College of Arts, Humanities and Social Sciences	39	\$1,544,812	61	\$2,544,075	60	\$2,034,506
College of Business	1	\$14,443	2	\$5,000	3	\$119,844
College of Engineering	124	\$32,276,806	173	\$43,308,647	166	\$47,745,548
College of Human Development and Education	33	\$1,895,568	43	\$4,719,504	30	\$2,178,982
College of Health Professions	80	\$41,645,507	78	\$24,792,569	76	\$40,508,646
College of Science and Mathematics	177	\$81,681,277	147	\$53,954,944	156	\$51,980,522
University Miscellaneous Offices	120	\$37,324,544	119	\$14,562,076	51	\$12,555,680
Upper Great Plains Transportation Institute	52	\$11,839,849	38	\$6,986,351	59	\$19,594,026
TOTAL	1375	\$277,902,034	1331	\$215,652,549	1241	\$222,425,261

*College/unit categories are determined by the principal investigator's department only; co-investigators' departments are not reflected.

Source: NDSU

Table 4

Total dollars awarded from external funding sources, FY 2014 - FY 2016

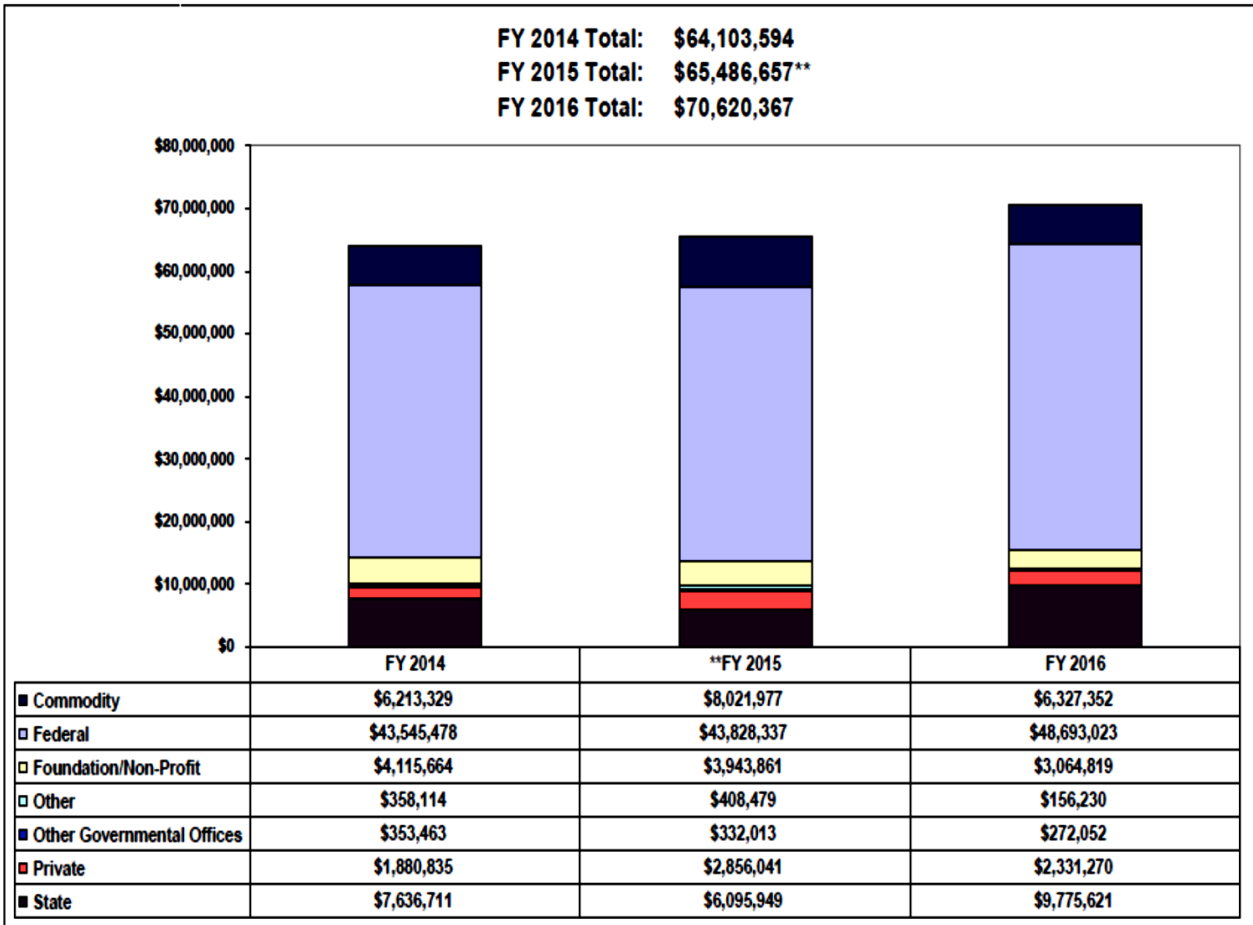
College/Unit*	FY 2014	FY 2015**	FY 2016
	Awarded	Awarded	Awarded
College of Agriculture, Food Systems & Natural Resources	\$559,126	\$65,645	\$245,373
Agriculture Experiment Station & Extension Service	\$19,918,393	\$22,062,871	\$25,964,700
College of Arts, Humanities & Social Sciences	\$803,113	\$1,437,801	\$1,481,788
College of Business	\$14,426	\$3,000	\$27,000
College of Engineering	\$1,389,889	\$3,604,157	\$3,514,252
College of Human Development & Education	\$999,069	\$854,294	\$1,684,601
College of Health Professions	\$5,629,736	\$4,247,266	\$6,235,743
College of Science & Mathematics	\$13,301,933	\$11,208,792	\$12,428,450
University Miscellaneous Offices	\$9,974,724	\$14,764,781	\$12,405,847
Upper Great Plains Transportation Institute	\$11,513,186	\$7,238,050	\$6,632,614
TOTAL	\$64,103,594	**\$65,486,657	\$70,620,367

*College/unit categories are determined by the principal investigator's department only; co-investigators' departments are not reflected.

**Adjustments were made to the previously published FY 2015 External Awards total. The adjusted total is included here.

Source: NDSU

Figure 1 Summary of external awards by source*, FY 2014 - FY 2016



*Federal formula funds and state appropriated dollars are not included.

** Adjustments were made to the previously published FY 2015 External Awards total. The adjusted total is included here.

Source: NDSU