History of the Department of Agronomy

Indiana recognized the need for agricultural education and improvement by passing the Legislative Acts of 1829 and 1835, which encouraged the organization of county agricultural societies, authorized county commissioners to accept donations of land for experimentation, and authorized appropriation of funds for partial support of these societies.

Purdue University was organized as Indiana's land grant university in 1869 and classes began in 1874. Curricula in agriculture, including agronomic subjects, began very early, but with few qualified students. The exact date of the beginning of the department is not clear, but we have accepted 1907 as the birth date of Agronomy. Courses listed as "Agronomy" appeared in the 1905-1906 catalog. Two years later in the 1907-1908 catalog, courses in Soils and in Crop Production were grouped under a heading of "AGRONOMY," indicating an independent Agronomy curriculum. Alfred T. Wiancko was named the head of Agronomy in the School in 1908.

Research was administered separately, and the "Agronomy" department in the Experiment Station appeared in 1910. However, crops and soils research and extension work started much earlier. By 1882, Professor William O. Latta, (who had a successful 54-year career at Purdue) was conducting experiments on corn, wheat, and oats in plots where Stewart Center now stands. He is usually considered our first agronomist. School of Agriculture bulletins published in 1885 reported on "The Hessian Fly" (Bull. 1); on "Experiments with Nitrogenous, Phosphatic and Other Fertilizer" (Bull.2); and compared wheat varieties (Bull. 4). Bulletin 33 (1890) described "The Absorptive Power of Soils."

Agricultural Extension became a part of Purdue's responsibilities when the Indiana General Assembly passed the Farmer's Institute Act on March 9, 1889. The Act provided funds for the first extension work to be organized by Purdue. During the winters of 1889-90 and 1890-91 institutes were organized in 90 of the state's counties. Professor Latta worked with these institutes, usually two-day education sessions, for most of his long career.

In 1911, the soil fertility work of the Chemical Department was combined with the crops work of the Agronomy Department in the Agricultural Experiment Station (AES) and the name changed to Soils and Crops with Professor Wiancko as chief. In 1916, Professor Martin L. Fisher, hired in 1903 as the department's first plant breeder, was named head of instruction in the school, a position he held until he became dean of men in 1926. That year, Professor Wiancko became head or "chief" for both the school and AES and continued in that role until he retired in 1943. Professor Fisher was also a great teacher and early writer on agronomic education. Five papers on teaching were published in the first four volumes of the *Agronomy Journal* (now *ASA Proceedings*) and three of them were by M.L. Fisher.

It is noteworthy that in the years prior to World War II, the department began awarding graduate degrees, starting with the first MS in 1913 in soils, and the first PhD in 1934. In the 1940s, 49 graduate degrees were awarded. That had grown to 346 in the 1970s. Subsequent decades have slightly smaller numbers, and by the end of 2005, 1,375 graduate degrees had been awarded to 1,145 students.

We have been led by only six department heads since the retirement of Professor Wiancko in 1943. Dr. George Scarseth, who joined the staff as a soil chemist in 1938, was named department head in 1943, but resigned in1944 to accept an appointment as Director of Research, American Farm Research Association. He was succeeded by Dr. Norman Volk then Head of Agronomy at Auburn. Dr. Volk was Agronomy head from 1945 to 1948, concurrently serving as associate director of AES. In 1948, he became AES director full time. Dr. John B. Peterson, professor of agronomy at Iowa State University, was appointed head of Agronomy in 1948 and served 23 years until 1971. During his tenure the department gained national and international recognition and doubled in size. He was a great talent scout and hired many faculty members who gained tremendous recognition. Three of his hires: Dr John Axtell, Dr. Stanley Barber, and Dr. Philip Low were members of the National Academy of Science in the 1980s.

Dr. Marvin W. Phillips, an Agronomy faculty member since 1961, was head of the department for 20 years, from 1971 to 1991. The department reached its peak of students and faculty in the 1970s and was forced to downsize into the 1980s, reducing faculty numbers by about 10 percent, but strength of the curriculum and quality of staff and students continued to improve. The Natural Resources and Environmental Science (NRES) undergraduate program was initiated in the early 1970s and its leadership has been in the Agronomy department since 1976. The Crop Diagnostic Center, a very innovative and successful interdepartmental extension effort, was conceived in the late 1980s and blossomed in subsequent decades.

Dr. William W. McFee, a faculty member since 1965, was named head of the department in 1991 and served until 2001. In the 1990s, the emphasis and direction in the department shifted toward environmentally related research and education in the soils faculty and toward molecular genetics in the plant breeding area. Efforts to stay connected to our graduates through department newsletters and recognition programs were initiated in the 90s.

Dr. Craig Beyrouty, professor of agronomy at the University of Arkansas, was named head of Agronomy in 2001 and continues in that role. The department has grown significantly in faculty numbers and research budget since 2000 and has diversified the course offerings and strengthened the graduate programs. Dr. Beyrouty established an Agronomy Advisory Council consisting of community and industry leaders who have provided valuable input for department planning and evaluation.

We are very pleased with the progress of the department in its first 100 years and especially proud of the men and women who have completed our undergraduate and graduate programs. Our faculty and staff, both past and present, have played significant roles in developing a nationally and internationally recognized department known for relevant and high impact teaching, research, and extension programs.

Mission, Vision, and Values of Purdue Agronomy

Mission

The Agronomy Department at Purdue University provides progressive and relevant undergraduate, graduate and extension education programs; conducts high impact fundamental and applied research at multiple scales to ensure that our science addresses immediate problems and anticipates future challenges; actively engages partners in the public and private sectors; and contributes to the development of the national and international agenda for research and education.

Vision

The Agronomy Department at Purdue University, a comprehensive department in the crop and earth system sciences, will be recognized as a global leader in research and education committed to enhancing the quality of life for all people. Our faculty and staff will work together to develop and deliver innovative and universally accessible educational programs that disseminate science-based information resulting from outstanding and high impact multidisciplinary research focused on serving society's needs.

Department Values

The Agronomy Department at Purdue University values:

- Understanding and solving the needs of our diverse clientele
- Universal access to our programs
- Excellence and creativity in our teaching, research, and outreach programs
- Multidisciplinary approaches to addressing our tripartite mission
- Having a positive presence among our constituency
- The success of our students, staff, and clientele
- Collegiality in our relationships with each other and with our clientele

Department Budget

Departmental budget for FY 02-03 and FY 07-08 is presented in Table 1.3. Budgeted dollars are an estimate of available resources to the department and are not reflective of actual expenditures, which often exceed budgeted amounts. Sources of funding include recurring dollars from general funds, as well as state and federal appropriations and non-recurring dollars from grants, contracts, and gifts, research farms and sales.

Table 1.3. Department of Agronomy budget for fiscal year (FY) 2002-2003 and 2007-2008.

	2002-03				2007-08		
Division & Source	**Budget $**	**% of Division**	**% of Total**		**Budget $**	**% of Division**	**% of Total**
Academic Programs							
University General Funds	1,293,652	96.7%	12.4%		1,406,465	95.0%	11.5%
Grants and Gifts	43,469	3.3%	0.4%		73,819	5.0%	0.6%
Total Academic Programs	**1,337,121**		**12.8%**		**1,480,284**		**12.2%**
Agricultural Research Programs							
University General Funds	1,940,965	28.5%	18.6%		2,241,910	24.7%	18.4%
State: Specific Line Appropriations	336,016	4.9%	3.2%		292,779	3.2%	2.4%
Federal: Hatch, McIntyre Stennis	802,856	11.8%	7.7%		784,483	8.8%	6.4%
Grants, Cooperative Agreements/Gifts	3,198,466	48.4%	31.7%		5,357,007	59.0%	44.0%
Research Farms	190,000	2.8%	1.8%		233,628	2.6%	1.9%
Public Service, Sales and Orders	247,290	3.6%	2.4%		166,801	1.7%	1.4%
Total Ag Research Programs	**6,815,593**		**65.4%**		**9,076,608**		**74.5%**
Cooperative Extension Service							
University General Funds	503,863	22.3%	4.8%		688,532	42.3%	5.7%
State: Specific Line Appropriations	0	0.0%	0.0%		0	0.0%	0.0%
Federal: Smith Lever	618,719	27.3%	5.9%		657,219	40.4%	5.4%
Grants, Cooperative Agreements/Gifts	901,836	39.8%	8.8%		133,191	8.2%	1.1%
Sales and Other	240,092	10.6%	2.3%		147,357	9.1%	1.2%
Total Cooperative Extension Service	**2,364,510**		**21.8%**		**1,636,299**		**13.3%**
Total Agronomy Department	**10,417,224**		**100.0%**		**12,193,191**		**100.0%**

The departmental budget in FY 02-03 was $10.4 M and in 07-08 was $12.2 M (Table 1.3). This 17% budget increase resulted primarily from a 24% increase in non-recurring dollars. During this same time period, recurring dollars increased only 10.5%, an average slightly greater than 2% per year. Salary increases during that same time period averaged greater than 2%, thus departmental dollars were reallocated during some years to support merit increases.

The split in departmental expenditures between appropriated and non appropriated funds for FY 02-03 and FY 07-08 is presented in Table 1.4. Note that appropriated funds were less than 50% of total departmental expenditures. Since FY 05-06, expenditures from non-appropriated funds have exceeded $8M (data not shown).

Table 1.4. Department of Agronomy summary of expenditures FY 2002-03 and 2007-08.

	2002-03			**2007-08**	
Division and Source	**Amount**	**% of Total**		**Amount**	**% of Total**
Appropriated Funds (Hard, Recurring) (General, State, Federal)	5,943,263	48.4%		6,606,851	44.3%
Non-Appropriated Funds (Soft, Non-Recurring) (Gifts, Grants, Research, Farms, Miscellaneous)	6,327,313	51.6%		8,309,563	55.7%
Total	**12,270,576**	**100.0%**		**14,916,414**	**100.0%**

Expenditures of appropriated dollars among the three mission areas in the department for FY 02-03 and FY 07-08 is presented in Table 1.5. The percentage of expenditures allocated as salary and wages averaged 86.2%. Our departmental goal is that salaries and wages not exceed 85% of total expenditures to ensure adequate resources to support departmental programs and faculty efforts.

Table 1.5. Comparison of actual expenditures of appropriated funds – FY 2002-03 and FY 2007-08

	2002-03			2007-08	
	Amount	**% of Total**		**Amount**	**% of Total**
Teaching	1,530,377	25.7%		1,679,891	25.4%
Extension	1,006,423	16.9%		1,120,079	17.0%
Research	3,406,463	57.4%		3,806,881	57.6%
Total	**5,943,263**	**100.0%**		**6,606,851**	**100.0%**
Salary & Wage as % of Total	5,100,895	85.8%		5,715,745	86.5%
Supply and Expense as % of Total	842,368	14.2%		891,106	13.5%
Total	**5,943,263**	**100%**		**6,606,851**	**100%**

Expenditures of recurring and non-recurring dollars across salaries, wages and other operating costs are presented in Table 1.6 for FY 02-03 and FY 07-08. Across all years since FY 02-03, expenditure of funds on graduate assistants were supported heavily from non-recurring dollars. The percentage of recurring dollars that support clerical and service staff decreased each year since FY 02-03, reflective of decreased departmental support for service staff dedicated to an individual PI's program. This reduction in departmental support was in response to mandatory budget reallocations to central administration, increased graduate student stipends, and startup investments by the department.

Table 1.6. Expenditure of departmental funds – FY 2002-03 and 2007-08

	2002-03			2007-08	
	Amount	**% Non Recurring**		**Amount**	**% Non Recurring**
Salaries					
Faculty & Administrative Professionals	5,644,192	29.8%		6,002,386	23.3%
Clerical and Service	1,019,712	28.2%		1,050,684	48.8%
Graduate Assistants	970,518	68.7%		1,251,848	71.5%
Student Salaries	332,911	73.3%		298,488	40.2%
Fringe Benefits	784,088	98.2%		950,193	96.0%
Other Costs	3,519,155	76.1%		5,362,815	83.4%
Total Operating Costs	**12,270,576**	**51.6%**		**14,916,414**	**55.7%**

Funds generated from grants and contracts have fluctuated from $5M to $12.4M during the past 6 fiscal years (Table 1.7). Except for FY 07-08, dollars generated from external awards per faculty FTE in Agronomy exceeded the respective averages for the College of Agriculture. Agronomy usually ranks at or near the top of departments in the College of Agriculture in outside support.

Table 1.7. Outside Support Awards for Fiscal Years (FY) 2002-03 to 2007-08
(Multiple year awards are shown in year awarded.)

	FY 2002-03	**FY 2003-04**	**FY 2004-05**	**FY 2005-06**	**FY 2006-07**	**FY 2007-08**
Department of Agronomy						
Total $ amount awarded	5,519,818	7,828,790	9,609,964	5,732,447	12,426,597	4,992,901
$/Faculty FTE	157,709	223,680	282,646	163,784	355,046	142,654
$/Research FTE	324,695	460,517	565,292	318,469	690,367	293,700
College of Agriculture						
Total $ amount awarded	38,767,518	41,617,794	54,281,993	43,587,171	66,142,797	46,149,043
$/Faculty FTE	144,117	149,704	194,559	153,476	224,976	159,135
$/Research FTE	331,346	343,949	437,758	360,225	493,603	341,845

Figures do not include Agronomy Center for Research and Education.

Sources of outside funds generated in Agronomy are presented in Table 1.8. Sources are quite diverse and represent the major federal funding agencies. Funding from NSF has increased 4 to 5 fold since FY 02-03 while funding from USDA has remained relatively constant. Industry support remains a significant contributor to our research efforts and nearly doubled since FY 02-03.

Table 1.8. Expenditure summary of outside funds for research and other sponsored programs in the Department of Agronomy, FY 2002-03 to FY 2007-08

	FY 02-03	**FY 03-04**	**FY 04-05**	**FY 05-06**	**FY 06-07**	**FY 07-08**
Federal Government						
USDA	1,155,234	1,261,096	1,588,706	1,746,628	1,706,888	1,286,415
NSF	665,193	1,061,323	1,983,635	3,011,046	3,092,077	2,584,561
NASA	140,845	-14	0	107,618	286,525	324,884
DOD	-4,794	0	2,534	11,332	17,616	0
DOE	204,887	207,860	0	0	226,410	128,949
AID	314,080	433,019	437,854	416,188	462,788	89,735
EPA	453,910	244,178	273,304	226,171	275,279	435,049
Other SPS	137,581	114,527	56,622	140,485	102,316	132,814
DHHS (NIH)	30,380	66,183	86,911	54,197	41,427	68,408
DOI	50,643	46,620	52,558	90,575	32,787	16,099
Industry	1,160,502	1,394,137	1,348,333	1,230,79	1,858,628	2,026,234
State/Local Government	985,959	744,472	206,824	43,695	36,551	12,972
Gifts	124,224	42,872	26,616	70,189	99,523	141,405
Other	663,780	698,867	819,551	999,768	318,596	751,540
Research Farm	244,889	218,345	196,209	309,956	334,164	310,500
TOTAL	**6,327,313**	**7,533,484**	**7,079,656**	**8,558,027**	**8,891,677**	**8,309,563**