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Staff Paper #354 August 1995

The Agricultural Economics Profession at the Crossroads: Survey Results of Faculty Salary, Employment, and Hiring Prospects

Mary A. Marchant and Lydia Zepeda

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The authors express gratitude to the department chairs, heads, and graduate student secretaries who participated in surveys by the AAEA Employment Services Committee, as well as Julie Henderson of the AAEA Business Office and AAEA Board Member Mary Ahearn. Appreciation is also expressed to research assistants Wangui Kinyanjui and Munirathinam Ravichandran, and staff assistant Rita Parsons.

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The Agricultural Economics Profession at the Crossroads: Survey Results of Faculty Salary, Employment, and Hiring Prospects

The agricultural economics profession faces a crossroad, where universities struggle with declining budgets, and the Federal government downsizes. The issue of the future of our profession continues to be raised by a variety of interests--(1) the National Academy of Science study of the land grant colleges; (2) the Farm Foundation, AAEA, C-FARE, and NAAEA jointly sponsored leadership project, funded by the Kellogg Foundation, to assess how our Association should adjust to the changing needs of our clientele; (3) the CAST project, which examines these same issues for agriculture overall; (4) researchers, such as Just and Rausser; Huffman and Orazem; Schrimper; Skees; Brandt and Ahearn; and Paris; and (5) individual AAEA members, who are concerned about encouraging students to obtain graduate degrees in agricultural economics when few jobs may exist upon graduation.[1]

This principal paper seeks to lay the foundation for addressing these issues by presenting results of the recent AAEA Employment Services Committee Survey of agricultural economic departments (Appendix A) and comparing results to prior surveys, including

(1) Average salary, number, and age distribution of faculty per department by rank;
(2) Faculty recruitment, including the number of hires and starting salaries;
(3) Faculty attrition, including reasons for departure from universities;
(4) Graduate students, including student enrollments, number of degrees conferred and fields of specialization, student placement and starting salaries; and
(5) Employment of women and minority faculty by rank and year.

Survey Data

Under the direction of the AAEA Board, the AAEA Employment Services Committee has conducted three surveys of all agricultural economics departments in the U.S. and Canada covering the years 1985/86-1993/94. The purpose of the original 1988 Survey, organized and conducted by Committee Chair Eugene Jones, was to establish baseline data, including student majors and degree recipients, student placement and entry level salaries, and faculty age, rank, and salary. The 1990 Survey, conducted by Committee Chair Don Ethridge, added questions about women, minorities, and international students (Ethridge). The 1993 Survey, conducted by Committee Chair Mary Marchant, added questions on faculty attrition, non-tenure track faculty positions, and the government sector.

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1. AAEA = American Agricultural Economics Association
C-FARE = Council on Food, Agriculture, and Resource Economics
NAAEA = National Association of Agricultural Administrators
CAST = Council of Agricultural Science and Technology

The survey questionnaire was sent to all academic departments by the AAEA Business Office. Results were aggregated to the regional level following the boundaries used by the AAEA--Northeast, North Central, South, and West. Response to all three surveys (1988, 1990, and 1993) was surprisingly similar with between 41 and 44 universities responding to each survey, and a common core of 23 universities responding to all three surveys, and an additional 9 universities responding to both the 1990 and 1993 surveys (see Ethridge; and Marchant and Kinyanjui for listing of schools).

The Market for Academic Agricultural Economists

Demand for Academic Agricultural Economists

To understand changes in the demand for academic agricultural economists, we examine changes in the survey data for the following: (1) average number and salaries of faculty; (2) faculty age distribution; (3) number and salaries of new faculty hired; (4) faculty attrition; and (5) women and minority faculty.

Average Number of Faculty. Table 1 and Appendix B identify the average number of faculty per department and respective faculty salaries by rank and region. The average number of faculty per department increased from 22 to 25 between 1985/86 and 1992/93. This increase occurred at the full professor level, from 11 to 14, while the average number of associate and assistant professors per department remained constant at 6 and 5, respectively. Geographically, the largest increase in faculty size occurred in the South, with an increase from 20 to 27 faculty per department.

Faculty Salaries. Salaries increased over the survey time period, particularly at the full professor level. Average salaries of full professors climbed more than 20 percent, from $57,636 in 1985/86 to $69,343 in 1992/93, while salaries of associate professors climbed nearly 18 percent, from $45,536 to $53,704, and for assistant professors, less than 15 percent, from $39,000 to $44,759. The consumer price index (CPI-U) over the same period increased by 31 percent (Economic Report of the President), indicating that real salaries declined.

Regionally, the Northeast consistently paid top faculty salaries throughout the survey period and for all ranks. At the full professor level, the Northeast paid 9.7 percent more than the overall average, in the North Central less than 1 percent more, in the South 3.3 percent less, and in the West 7.1 percent less during 1992/93. Regional differences diminished at the associate level, even more so at the assistant level; and regional rankings changed somewhat, with the West improving its standing.

Age Distribution of Faculty. Figure 1 compares the relative age of agricultural economics faculty for three points in time--1985, 1989, and 1993. Results show a change in the age composition with a 6 percent decline in the under 40 faculty, a 2 percent increase in both the 41-50 and the 51-60 age groups, and a 3 percent increase in the over 61 group.

Number and Salaries of New Hires. Although the number of assistant professors remained constant throughout the survey period, these results do not necessarily imply good news for Ph.D. graduates entering the job market. Over the three-year period from 1990 to 1993, 107 new faculty were hired by agricultural economics departments; fewer than half (46) were filled by new Ph.D.s, with the majority of new positions going to experienced agricultural economists. The majority of hiring occurred in the North Central and Western regions, where of the 52 and 30 new faculty hired, only 19 and 12 were new Ph.D.s., respectively. The South and the Northeast hired 15 and 10 new faculty, respectively; however, in the South, 11 were new Ph.D.s compared to 4 in the Northeast. Interestingly, although the West hired twice as many total new faculty as the South, each hired about the same number of new Ph.D.s.

Starting salaries for new Ph.D.s climbed from $40,445 in 1990/91 to nearly $44,700 in 1992/93, with the greatest gains in the South and the North Central regions. The South (at $48,333) paid the highest average faculty starting salary for new Ph.D.s in 1992/93, followed by the North Central region ($46,130), the West ($43,333), and the Northeast ($40,987), although top salaries varied regionally by year, e.g., the West paid highest salaries for both 1990/91 and 1991/92, and the range has grown, e.g., in 1990/91 the difference was only $1,300 between high and low salaries.

Faculty Attrition. Of the 109 faculty that left agricultural economics departments between 1990/91 and 1992/93, 68 retired, 8 accepted other academic positions (e.g., administration), 9 accepted government jobs, 7 went to the private sector, 2 went to interests groups, and 15 left for other or unknown reasons. An additional 26 faculty (12 assistants, 6 associates, and 8 full professors) transferred to different universities. Broder, White, and Taylor examined the determinants of faculty retirements by agricultural economists.

Women and Minority Faculty. The overall proportion of women and minority faculty increased slightly between 1987/88 and 1992/93, with minority faculty increasing from 3 to 5 percent and women faculty maintaining at 6 percent of total faculty (Ethridge; Appendices A and B). For minority faculty, the greatest gains occurred in the South, at both the full and assistant professor levels, and in the West and Northeast at the associate professor level. The greatest gains for women occurred at the associate professor level, which increased overall from 4 to 9 percent between the 1990 and 1993 survey periods, as each region increased its proportion of women associate professors, led by the North Central region. At the assistant level, slight improvements occurred in virtually all regions, with an increase in women faculty from 15 to 16 percent between survey periods, led by the West in total numbers and other regions close behind. At the full professor level, there were only 12 women in 1992/93, while minority full professors totaled 23. Demographics differ for the two groups by rank--women faculty follow a pyramid structure, where numbers decrease with higher ranks, (Zepeda, Marchant, and Chang), while minority faculty follow an inverse pyramid structure, due to the influence of the 1890 schools (Ethridge).

Supply of Future Agricultural Economists

To understand changes in agricultural economics graduate programs, we examine changes in (1) the number of students enrolled and degrees conferred, (2) fields of specialization, and (3) placement and starting salaries of graduates.

Average Number of Graduate Students Enrolled and Degree Recipients. At the graduate level, the number of Ph.D. students nearly doubled from an average of 14 to 27 per department, while the number of Masters students remained virtually constant, at 27 for 1985/86-1992/93 (figure 2b/c). Regionally, Ph.D. programs in the North Central, South, and Northeast regions doubled. The North Central region had the largest number of graduate students (76), and the South the second largest number (56) in 1992/93. The number of Ph.D. degree recipients per department per year also doubled from 3 in 1985/86 to 6 in 1992/93, primarily due to the increase in degrees granted by the North Central region. The number of Masters degree recipients per department remained constant, at about 6 thesis degrees per year and 6 non-thesis options per year. These numbers illustrate that graduate programs grew, particularly due to growth stemming from international students.

International Students. The percent of international student degree recipients by degree level in 1992/93, was 4 percent at the undergraduate level, 34 percent at the Masters level, and 54 percent at the Ph.D. level (figure 3). This represents an increase over 1987/88 levels when international students at the Masters level comprised 30 percent and 45 percent at the Ph.D. level. Gempesaw and Elterich analyzed the impact of international students on the academic market and concluded that international students would fill 10 percent of academic positions.

Average Number of Undergraduate Students Enrolled. Undergraduate enrollments, which can justify faculty numbers as well as serve as a pool to obtain graduate students, peaked in academic year 1988/89 at an average of 215 per department. Regional differences exist throughout the survey period, 1985/86-1993/94 (figure 2a). While it is true that the total number of undergraduates per department fell since the 1988/89 peak, total enrollment for 1992/93 is virtually identical to the 1985/86 level, the first year of our survey. Relative to other departments in agricultural colleges, agricultural economics departments generally have more students, reflecting undergraduates' increasing interest in natural resources and agribusiness (Ballenger and Kouadio).

Fields of Specialization. Over one-fifth of Ph.D. graduates specialize in natural resources or environmental economics. Other popular fields include agricultural trade, finance, and production economics, with each area chosen by 11 percent of Ph.D. graduates. Student interest has grown for each of these fields over time, with the exception of production economics, holding steady at 11 percent. In contrast, interest in agricultural marketing fell from 16 percent to 7 percent, while interest in agricultural policy analysis rose to 9 percent in 1992/93. Farm management remained steady at 5-6 percent, and international development peaked in 1989/90 at nearly 19 percent, compared to its current 8 percent. Clearly, departments with strong fields in natural resource and environmental economics, agricultural trade, finance, and production economics will attract students.

Employment Prospects. The decline in government hiring, the rise in hiring faculty with experience rather than new Ph.D.s, and crossovers from economics explain the expanding applicant pool for academic jobs. As a result, it appears that soft money positions and post docs are becoming more prevalent in our profession; similar positions are common in other disciplines, where they serve to train students in publishing, grant writing and teaching.

Starting salaries generally increased over the sample period; however, the composition of employers changed (Appendices A and B). Among *Ph.D. graduates,* academia is the largest employer, employing one-third of all Ph.D. recipients, down from 41 percent in 1985/86. Academic salaries rose from $19,400 in 1985/86, to about $40,000 in 1992/93, as reported by departments whose students were placed. Foreign employment is the second largest source of jobs, around 30 percent. Interestingly, even as the percentage of international students rose, the percent of foreign employment fell. Government accounts for only 10 percent of Ph.D. employment, down from 22 percent in the mid-1980s.

Among *Masters* recipients, the private sector has employed around 20 percent and starting salaries increased from $17,000 in 1985/86 to $26,400 in 1992/93. Government, as an employer fell from 16 to 9 percent, while salaries nearly doubled from $15,000 to $29,000. Both academic job placement and salaries doubled--from 5 to 9 percent placement and $10,000 to $20,000 salary. About 20 percent of Masters students chose to continue their graduate studies, and a fifth to a quarter of Masters students were employed overseas.

Concluding Remarks

Given the pervasive perception of budgetary cutbacks, it is surprising that we have not found downsizing of agricultural economics departments in terms of faculty numbers and limited hiring. Growth has been particularly high at the full professor level overall and regionally, in the South. Relative changes occurred in the composition of faculty and corresponding salaries. As a faculty, we are growing older. Correspondingly, the percent of assistant and associate professors declined, and full professors grew. Academic salaries rose in a similar manner, where the average salaries of full professors increased the most, however they did not keep pace with inflation.

Student numbers and composition also changed, as Ph.D. enrollments doubled in virtually all regions and undergraduate programs returned to their mid-1980 levels, after peaking in the late 1980s. The most notable change in the composition of graduate students was the increase in international students, to 54 percent of Ph.D. students. In regards to fields of specialization, the most popular fields include natural resources and environmental economics, international trade, finance, and production economics.

Hiring in academia remained fairly constant, while government hiring dramatically declined. However, of the academic hires, over one-half had experience. Clearly, as competition for faculty slots increases due to (1) the increasing number of Ph.D. students and (2) departments hiring experienced rather than new Ph.D.s to fill positions, new Ph.D.s must strengthen their resumes through other means, e.g., publications, teaching and extension experience, and grant

writing. To the extent that fresh Ph.D.s often lack this experience, post docs and soft money positions may be used as a strategy to gain experience. Future academics should also be aware that social science research funding is becoming scarcer (Norton, et al.), thereby increasing the relative importance of teaching and extension. New Ph.D.s can also exploit the niches of future demand; natural resources and agribusiness on the teaching side and community development, family and consumer issues on the extension side (Ballenger and Kouadio). For both prospective and current academics, it is crucial to continue tracking our profession; for it is impossible to know where we are going, if we do not know the path chosen at the crossroads.

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Table 1. Average Salary and Number of Faculty per Dept. By Rank, Year, and Region[2]

Region/Year		Professor		Associate Professor		Assistant Professor	
		No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary
South	1985/86	10	$57856	5	$47927	5	$39503
	1986/87	10	54126	6	40195	5	36736
	1987/88	10	55954	5	44268	4	37847
	1988/89	12	58261	5	46610	4	38492
	1989/90	12	60581	5	48224	5	39921
	1990/91	15	62882	7	48955	6	41013
	1991/92	16	64094	6	49905	5	42255
	1992/93	16	67052	6	51271	5	43396
West	1985/86	10	60504	5	46916	3	41125
	1986/87	11	53004	5	49537	3	42703
	1987/88	10	62578	4	50569	4	42951
	1988/89	12	67463	3	50122	5	41732
	1989/90	12	70198	4	52720	4	43989
	1990/91	11	57196	4	48333	4	40891
	1991/92	12	60361	5	49610	3	42399
	1992/93	12	64443	5	51647	3	44655
North Central	1985/86	15	57118	7	48198	6	40435
	1986/87	15	53810	7	44968	5	37573
	1987/88	16	59370	7	45978	6	39810
	1988/89	17	61830	8	47855	6	42631
	1989/90	16	64886	8	50563	6	45715
	1990/91	17	65771	8	50074	5	44094
	1991/92	17	67613	8	51143	5	43981
	1992/93	17	69779	8	54918	5	44162
North East	1985/86	9	66684	6	41803	5	41066
	1986/87	9	70176	6	44837	6	43303
	1987/88	8	62243	6	49401	5	32753
	1988/89	6	66427	6	52805	4	41658
	1989/90	6	70942	6	58468	4	45515
	1990/91	11	78120	6	63235	5	48012
	1991/92	12	80443	6	64148	5	48542
	1992/93	10	76098	6	56979	4	46824
Total	1985/86	11	$57636	6	$45536	5	$39000
	1986/87	11	57673	6	45074	5	39875
	1987/88	11	57383	5	45545	5	37757
	1988/89	12	61918	6	48503	5	40762
	1989/90	12	64958	6	51233	5	43425
	1990/91	14	65992	6	52649	5	43502
	1991/92	14	68128	6	53702	5	44294
	1992/93	14	69343	6	53704	5	44759

[2]Salaries are based on 12-month appointments and expressed in nominal U.S. dollars.

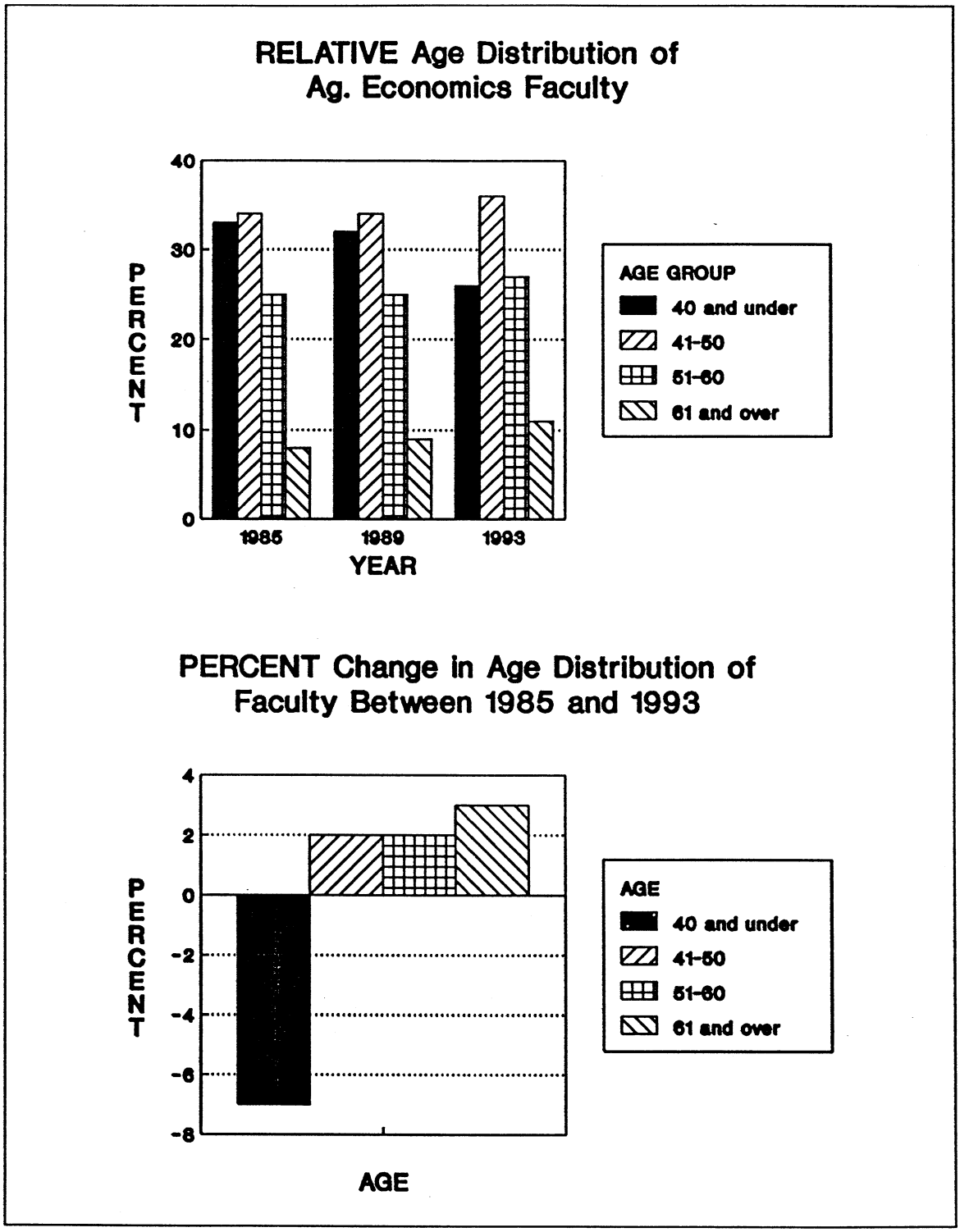

Figure 1 a/b. Faculty Age Distribution

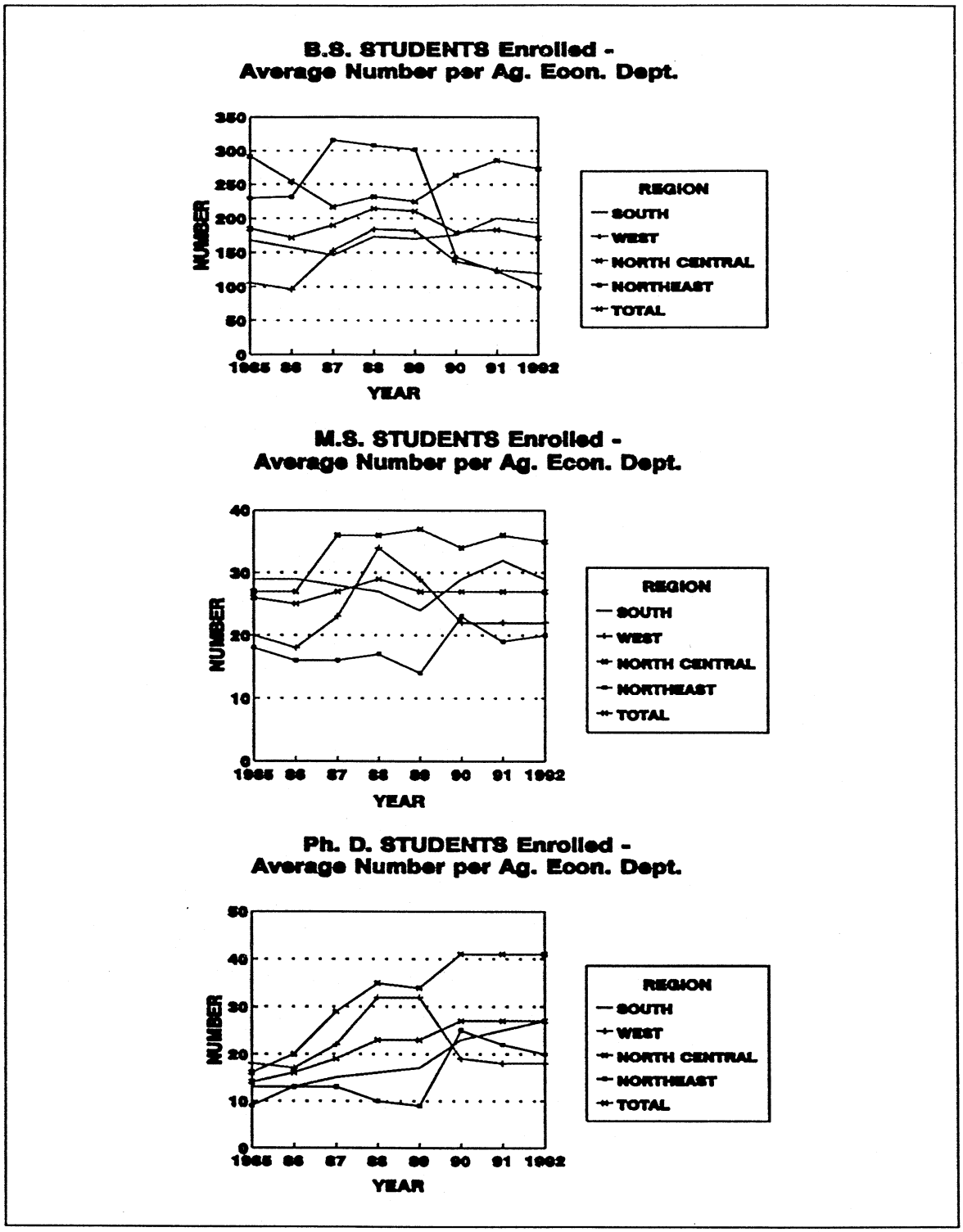

Figure 2 a/b/c. Student Enrollments--B.S./M.S./Ph.D.

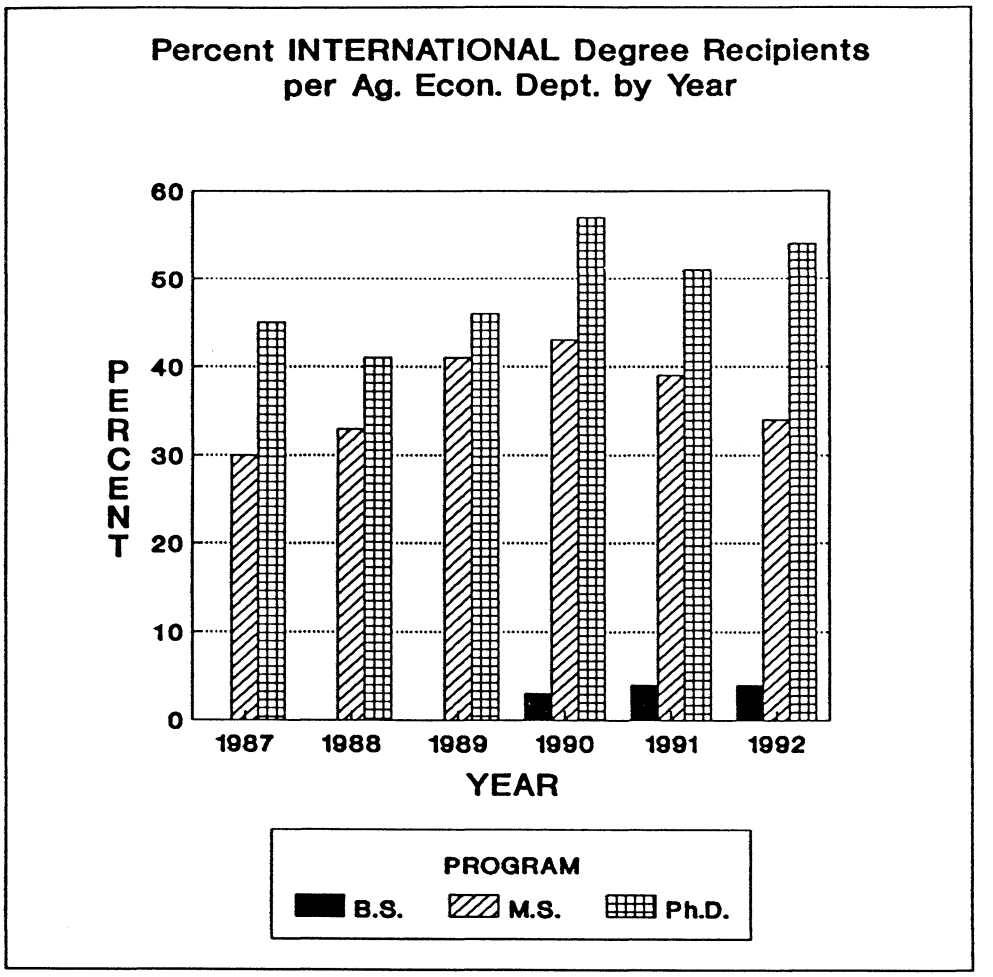

Figure 3. International Students

APPENDIX A

AMERICAN AGRICULTURAL ECONOMICS ASSOCIATION

AAEA Employment Services Committee

1993 Survey Results

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List of Tables and Graphs

1993 AAEA EMPLOYMENT SERVICES COMMITTEE SURVEY

With the approval of the AAEA Board, the Employment Services Committee undertook a survey of Agricultural Economics Departments and programs in the U.S., Canada and Puerto Rico in the late spring and summer of 1993. The survey covered the academic years 1990/91, 1991/92, and 1993/94. Two prior surveys were conducted in 1988 and 1990 and covered the years 1985/86, through 1989/90. The following tables were constructed from the three sets of survey data as an attempt to capture selected baseline data which are important to the functioning of the Employment Services Committee, as well as other AAEA committees, and potentially, the discipline in general.

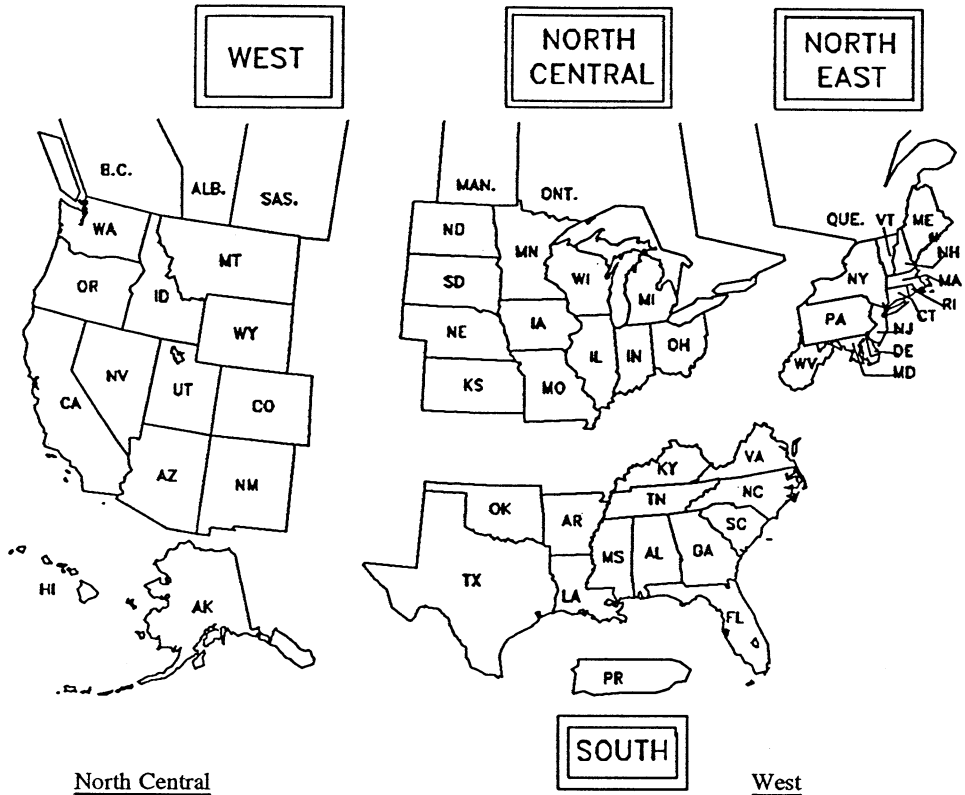
The 1993 survey was similar to the form used in the previous surveys. Additional information on women, minorities, and international students was added in the 1988 survey and this information was continued in the 1993 survey. Information on faculty attrition and non-tenure track faculty as well as government employment of agricultural economists was added to the 1993 survey. Committee members Ed Rister, Lydia Zepeda, Emily McClain, Liana Neff and past Committee Chair Don Ethridge provided valuable feedback in developing the 1993 survey. The survey was sent to approximately 140 departments and responses were eventually obtained from 45 departments, where the response rate equalled the 1988 survey. Canadian departments (see attached map for the regional delineations) were included in the 1990 and 1993 surveys, but not the 1988 survey (Canadian salaries were converted to U.S. dollar equivalents).

We attempted to make information from the three surveys as compatible as possible. The 1993 surveys from Agricultural Economic Departments were collected by Julie Henderson of the AAEA Business Office. Government data were collected by Priscilla Joseph, Foreign Agricultural Service (FAS), and Emily McClain and Liana Neff, Economic Research Service (ERS). Supplemental government data were provided by Mary Ahearn using the Survey of Doctorate Recipients compiled by the National Research Council (only a portion of which is presented here). Surveys and data were forwarded to Mary A. Marchant at the University of Kentucky. Data were tabulated by Research Assistant Wangui Kinyanjui using QuatroPro spreadsheets. Tables were typed by Staff Assistants Rita Parsons and Kristin Rehrman. The map was developed by Darryl (Doc) Cottle, and graphics for the government sector were prepared by Research Assistant Munirathinam Ravichandran.

Gratitude is expressed to the department chairs, heads, and graduate student secretaries who participated in the 1993 AAEA Employment Services Committee Survey.

Mary A. Marchant
1993 AAEA Employment Services
Committee Chair
Lexington, Kentucky

Universities That Responded to the 1993 AAEA Employment Services Survey



	North Central
1	North Dakota Univ.*
2	South Dakota Univ.*
3	Univ. of Manitoba*
4	Michigan State Univ.*
5	Kansas State Univ.*
6	Univ. of Illinois
7	Univ. of Minnesota*
8	Purdue Univ.*
9	Univ. of Nebraska*
10	Iowa State Univ.*
11	Ohio State Univ.*
12	Univ. of Wisconsin, Madison*

	Northeast
1	Univ. of New Hampshire
2	Univ. of Vermont*
3	Univ. of Maryland
4	Cornell Univ.*
5	Penn State Univ.*
6	Univ. of Rhode Island
7	McGill University

	West
1	Univ. of Wyoming
2	Univ. of Alberta*
3	Univ. of Arizona*
4	Univ. of Idaho
5	Oregon State Univ.*
6	Montana State Univ.*
7	Washington State Univ.*
8	Utah State Univ.
9	Colorado State Univ.*
10	New Mexico State Univ.
11	Univ. of California, Davis*
12	Univ. of Nevada

	South
1	Texas Tech Univ.*
2	Texas A & M Univ.*
3	North Carolina State Univ.*
4	Southwest Texas State Univ.
5	Univ. of Arkansas*
6	Oklahoma State Univ.*
7	Auburn Univ.
8	Virginia Tech (VPI)
9	Univ. of Florida*
10	Mississippi State Univ.*
11	Univ. of Kentucky*
12	Univ. of Georgia*
13	Univ. of Puerto Rico*
14	Southern A&M Univ.*

* = Departments that also responded to the 1988 Survey.

Universities that responded to the 1988 Survey but not the 1993 survey included: (North Central), Univ. of Missouri-Columbia; (Northeast) West Virginia Univ., Rutgers, Univ. of Delaware; (West) Univ. of Calif.-Berkeley, Calif. State Univ.-Chico, Brigham Young Univ., and (South) Clemson Univ., Univ. of Tennessee, Prairie View A&M, and S.C. State.

Table 1. Average Number of Students Enrolled per Agricultural Economics Department, by Year and Region.

Region Year	Program B.S. No. per Dept.	Masters No. per Dept.	Ph.D. No. per Dept.
South			
1985/86	168	29	13
1986/87	157	29	13
1987/88	146	28	15
1988/89	173	27	16
1989/90	170	24	17
1990/91	176	29	23
1991/92	201	32	25
1992/93	194	29	27
West			
1985/86	106	20	18
1986/87	96	18	17
1987/88	153	23	22
1988/89	184	34	32
1989/90	182	29	32
1990/91	137	22	19
1991/92	125	22	18
1992/93	120	22	18
North Central			
1985/86	292	27	16
1986/87	255	27	20
1987/88	217	36	29
1988/89	232	36	35
1989/90	225	37	34
1990/91	264	34	41
1991/92	286	36	41
1992/93	274	35	41
Northeast			
1985/86	230	18	9
1986/87	232	16	13
1987/88	316	16	13
1988/89	308	17	10
1989/90	302	14	9
1990/91	144	23	25
1991/92	123	19	22
1992/93	99	20	20
Total			
1985/86	185	26	14
1986/87	172	25	16
1987/88	190	27	19
1988/89	215	29	23
1989/90	211	27	23
1990/91	180	27	27
1991/92	184	27	27
1992/93	172	27	27

Table 2. Average Number of Degree Recipients per Agricultural Economics Department, by Year and Region.

	Program										Program			
	B.S.				Masters						Ph.D.			
Region/Year	No. per Dept.	% Women	% Minorities	% Int'l	Thesis per Dept.	Non-thesis per Dept.	% Women	% Minorities	% Int'l	Region/Year	No. per Dept.	% Women	% Minorities	% Int'l
South										**South**				
1985/86	48	--			7	6	--		--	1985/86	4	--		--
1986/87	45	--			5	7	--		--	1986/87	3	--		--
1987/88	34	16			6	2	12		21	1987/88	3	7		42
1988/89	41	19			5	3	9		25	1988/89	4	16		35
1989/90	40	22			5	2	17		30	1989/90	3	14		43
1990/91	45	17	11	2	7	10	15	5	33	1990/91	4	8	0	73
1991/92	47	19	12	3	6	10	17	7	34	1991/92	4	6	6	48
1992/93	45	22	11	4	6	9	21	10	24	1992/93	5	12	0	56
West										**West**				
1985/86	30	--			4	2	--		--	1985/86	3	--		--
1986/87	24	--			3	3	--		--	1986/87	3	--		--
1987/88	45	38			5	3	28		51	1987/88	3	24		44
1988/89	50	36			4	5	24		46	1988/89	4	31		38
1989/90	51	30			3	6	28		64	1989/90	4	15		42
1990/91	39	20	2	7	6	6	21	1	42	1990/91	5	9	0	27
1991/92	43	22	3	11	6	4	19	0	43	1991/92	4	11	4	50
1992/93	43	20	4	9	6	3	18	6	40	1992/93	4	na	0	50
North Central										**North Central**				
1985/86	75	--			7	5	--		--	1985/86	4	--		--
1986/87	71	--			7	4	--		--	1986/87	2	--		--
1987/88	70	16			7	4	23		31	1987/88	3	16		51
1988/89	63	17			5	4	24		39	1988/89	5	13		42
1989/90	38	16			6	3	19		45	1989/90	3	18		48
1990/91	78	13	16	1	6	9	13	7	47	1990/91	7	10	5	60
1991/92	80	14	17	1	7	8	15	2	41	1991/92	6	na	2	54
1992/93	85	15	18	1	8	6	12	4	42	1992/93	9	7	0	58
Northeast										**Northeast**				
1985/86	76	--			8	0	--		--	1985/86	3	--		--
1986/87	77	--			6	0	--		--	1986/87	2	--		--
1987/88	58	9			5	1	22		29	1987/88	2	36		36
1988/89	67	11			6	3	26		31	1988/89	2	18		73
1989/90	68	30			7	1	38		35	1989/90	3	13		56
1990/91	40	14	17	1	6	6	19	2	50	1990/91	4	27	0	67
1991/92	36	17	15	1	5	3	21	7	39	1991/92	8	21	8	50
1992/93	24	17	12	2	7	4	17	2	29	1992/93	5	20	7	53
Total										**Total**				
1985/86	54	--			6	5	--		--	1985/86	3	--		--
1986/87	51	--			5	5	--		--	1986/87	2	--		--
1987/88	48	19			6	3	19		30	1987/88	3	15		45
1988/89	53	23			5	3	18		33	1988/89	4	18		41
1989/90	47	25			5	3	22		41	1989/90	3	15		46
1990/91	48	16	12	3	6	8	17	4	43	1990/91	5	14	1	57
1991/92	48	18	12	4	6	6	18	4	39	1991/92	6	10	5	51
1992/93	46	19	11	4	7	6	17	6	34	1992/93	6	10	2	54

Table 3. Distribution of **Graduate Students Placed** and Average Annual **Salaries** (dollars) by Type of Employer

Degree and Type of Employer	Year															
	1985/86		1986/87		1987/88		1988/89		1989/90		1990/91		1991/92		1992/93	
	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary	% Placed	Avg. Salary
Masters																
Private industry	21	$17071	36	$23000	23	$20839	26	$25350	18	$21458	17	$23679	21	$24938	20	$26438
Government	16	15091	26	16279	20	17700	17	22063	20	16750	17	26274	12	27000	9	29417
Academic	5	9889	7	13339	9	17056	9	21721	8	17308	9	24752	8	25708	9	20343
Graduate school	19	--	23	--	15	--	14	--	19	--	18	0	25	--	20	--
Public interest groups	na	--	na	--	1	--	2	--	1	--	0	0	1	--	1	--
Other/unknown	29	--	29	--	14	--	13	--	16	--	14	0	12	--	20	--
Foreign Employment											25	0	21	--	21	--
Ph.D.																
Private industry	9	4375	12	6000	10	20000	10	23714	8	29000	na	na	na	--	na	--
Government	22	11500	25	13125	19	22750	21	23208	24	23839	16	na	13	42000	10	--
Academic	41	19357	37	21900	47	30093	49	32310	38	34183	39	36216	33	33564	33	39673
Graduate school	na	--	na	--	0	--	1	--	5	--	6	na	10	--	6	--
Public interest groups	na	--	na	--	.7	--	3	1	1	--	3	na	6	--	2	--
Other/unknown	12	--	13	--	10	--	5	--	16	--	5	na	6	--	22	--
Foreign Employment											31	na	32	--	27	--

n/a = not available

Table 4a. Distribution of **Ph.D. Graduates by Field** of Specialization and Year.

Field of Specialization	Year							
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
	Percent							
Farm Management	6.0	5.3	2.2	6.5	7.7	7	2	5
Production Economics	11.1	10.6	11.8	8.9	11.8	16	8	11
Agricultural Marketing	16.2	16.0	16.2	17.8	15.1	16	18	7
Agribusiness Management	0.0	3.2	0.0	0.7	0.8	0	2	0
Agricultural Price, Income Policy, Analysis	15.4	11.7	11.0	11.6	16.0	4	2	7
International Development	6.9	7.5	16.9	15.1	18.5	7	15	8
Agricultural Trade and Finance	5.3	7.5	10.3	14.4	10.1	7	13	11
Natural Resource, Environmental Economics	17.1	14.9	9.6	13.0	15.1	17	14	21
Community Resource Economics	2.6	0.0	1.5	2.7	2.5	5	3	2
Consumer and Human Resource	1.7	0.0	5.9	4.1	4.2	4	3	2
Research Methods, Econometrics, Statistics	1.7	4.3	3.7	4.8	5.0	4	4	5
Agricultural Policy Analysis						6	5	9
Agricultural Finance	--	--	--	--	--	7	10	12

Table 4b. **Stipends for Graduate Students** by Region (U.S. dollars)

Year Region	Post Adv	PhD RA	PhD TA	MS RA	MS TA
Northeast					
1990/91	$12,360	$12,096	$12,096	$10,453	$10,143
1991/92	12,360	12,481	12,481	10,851	10,684
1992/93	12,360	12,725	12,725	11,521	10,937
North Central					
1990/91	11,398	11,708	11,052	10,350	10,415
1991/92	12,006	12,119	11,551	10,792	10,905
1992/93	12,554	12,773	12,182	11,029	11,083
West					
1990/91	9,000	10,245	9,887	9,245	9,138
1991/92	9,000	10,505	10,186	9,464	9,307
1992/93	13,641	10,699	10,413	9,594	9,477
South					
1990/91	11,221	10,878	9,950	10,836	8,798
1991/92	11,852	11,236	11,008	10,956	8,798
1992/93	12,307	11,605	11,453	NA	8,800
Average					
1990/91	$10,995	$11,232	$10,746	$10,221	$9,623
1991/92	11,304	11,585	11,306	10,516	9,924
1992/93	12,715	11,950	11,693	10,821	10,074

NA = Not available
Post Adv = Post-Advanced to candidacy, i.e., students who are at the dissertation stage

Table 5. **Age Distribution of Faculty** Members in Departments of Agricultural Economics by Region, 1985, 1989, and 1993.

Age		Regions				
		South	West	North Central	Northeast	Total
		Percent				
30 and under						
	1985	4	3	3	0	3
	1989	2	3	4	1	3
	1993	3	2	0	1	2
31-35						
	1985	18	11	13	14	14
	1989	13	11	11	18	12
	1993	8	9	11	10	10
36-40						
	1985	19	14	14	25	17
	1989	21	13	14	14	17
	1993	16	15	14	16	15
41-45						
	1985	17	22	18	10	18
	1989	18	18	14	17	16
	1993	19	19	15	19	18
46-50						
	1985	15	19	15	17	16
	1989	18	21	18	15	18
	1993	16	19	17	18	18

continued

Table 5. Continued

Age	Regions				
	South	West	North Central	Northeast	Total
	Percent				
51-55					
1985	12	14	16	9	13
1989	13	17	12	9	13
1993	17	17	18	16	17
56-60					
1985	10	9	13	20	12
1989	10	9	14	14	12
1993	13	10	12	5	10
61-65					
1985	4	8	7	4	6
1989	5	6	9	10	7
1993	6	7	9	15	9
66 and over					
1985	2	0	2	0	2
1989	1	2	3	1	2
1993	2	2	4	0	2

Table 6. **Distribution by Faculty Rank** of Agricultural Economists in Academic Institutions

Region/Year	Professor	Associate Professor	Assistant Professor
	Percent		
South			
1985/86	49	26	25
1986/87	49	28	23
1987/88	53	25	22
1988/89	57	24	19
1989/90	56	24	20
1990/91	58	25	17
1991/92	60	23	17
1992/93	62	23	15
West			
1985/86	52	31	17
1986/87	55	29	16
1987/88	53	26	22
1988/89	61	18	22
1989/90	62	18	20
1990/91	61	20	20
1991/92	60	24	17
1992/93	60	22	17
North Central			
1985/86	54	26	20
1986/87	54	26	20
1987/88	56	22	22
1988/89	55	25	20
1989/90	54	27	19
1990/91	57	25	18
1991/92	57	26	17
1992/93	57	28	15
Northeast			
1985/86	47	33	20
1986/87	47	32	21
1987/88	44	35	22
1988/89	37	38	25
1989/90	38	38	24
1990/91	45	29	26
1991/92	45	32	23
1992/93	45	34	21
Total			
1985/86	51	28	21
1986/87	51	28	21
1987/88	53	25	22
1988/89	54	25	20
1989/90	54	26	20
1990/91	55	25	21
1991/92	55	27	19
1992/93	56	27	17

Table 7. Total New Faculty Hired and Starting Salaries
During the Last Three Years

	North East	North Central	West	South	Averages
New Ph.D's	4	19	12	11	46
Total New Faculty	10	52	30	15	107
Starting Salaries for New Ph.D's					Ave. Starting Salary
1990/91	NA	$40,044	$41,292	$40,000	$40,445
1991/92	43,008	42,469	44,183	43,994	43,414
1992/93	40,987	46,130	43,333	48,333	44,696

NA = Not available

Table 8. **Average Number of Faculty per Department** and 12-Month Faculty Salaries (U.S. dollars) in Departments of Agricultural Economics by Year and Region

Region/Year	Professor		Associate Professor		Assistant Professor		All Ranks	
	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary
South								
1985/86	10	$57856	5	$47927	5	$39503	20	$48428
1986/87	10	54126	6	40195	5	36736	21	43686
1987/88	10	55954	5	44268	4	37847	19	46023
1988/89	12	58261	5	46610	4	38492	21	47788
1989/90	12	60581	5	48224	5	39921	22	49576
1990/91	15	62882	7	48955	6	41013	28	50950
1991/92	16	64094	6	49905	5	42255	27	52085
1992/93	16	67052	6	51271	5	43396	27	53906
West								
1985/86	10	60504	5	46916	3	41125	18	49516
1986/87	11	53004	5	49537	3	42703	19	48415
1987/88	10	62578	4	50569	4	42951	18	52032
1988/89	12	67463	3	50122	5	41732	20	53105
1989/90	12	70198	4	52720	4	43989	20	55635
1990/91	11	57196	4	47183	4	40143	19	48174
1991/92	12	60361	5	49321	3	41915	20	50532
1992/93	12	63136	4	50704	3	44100	19	52647
North Central								
1985/86	15	57118	7	48198	6	40435	28	48583
1986/87	15	53810	7	44968	5	37573	27	45450
1987/88	16	59370	7	45978	6	39810	29	48387
1988/89	17	61830	8	47855	6	42631	31	50771
1989/90	16	64886	8	50563	6	45715	30	53721
1990/91	17	65771	8	50074	5	44094	30	53313
1991/92	17	67613	8	51143	5	43981	30	54246
1992/93	17	54918	8	54918	5	44162	30	56286

continued

Table 8. continued

Region/Year	Professor		Associate Professor		Assistant Professor		All Ranks	
	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary	No. per Dept.	Avg. Salary
Northeast								
1985/86	9	66684	6	41803	5	41066	20	49852
1986/87	9	70176	6	44837	6	43303	21	52772
1987/88	8	62243	6	49401	5	32753	19	48132
1988/89	6	66427	6	52805	4	41658	16	53631
1989/90	6	70942	6	58468	4	45515	16	58308
1990/91	11	78120	6	63235	5	48012	22	63122
1991/92	12	80443	6	64148	5	48542	23	64378
1992/93	10	76098	6	56979	4	46824	20	59967
Total								
1985/86	11	$57636	6	$45536	5	$39000	22	$47390
1986/87	11	57673	6	45074	5	39875	22	47540
1987/88	11	57383	5	45545	5	37757	21	46895
1988/89	12	61918	6	48503	5	40762	23	50394
1989/90	12	64958	6	51233	5	43425	23	53205
1990/91	14	65805	6	52649	5	43502	25	54048
1991/92	14	67919	6	53702	5	44294	25	55375
1992/93	14	68725	6	53704	5	44759	25	55935

Table 9a. **NUMBER of Women and Minority Faculty** in Agricultural Economics Departments, by Rank and Year.

	Region									
	South		West		North Central		Northeast		Totals (All Regions)	
	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities
	Actual Numbers									
Professor										
1990/91	1	15	1	5	5	3	1	0	8	22
1991/92	2	15	2	6	5	2	1	0	10	22
1992/93	2	16	3	5	6	2	1	0	12	23
Associate Professor										
1990/91	5	5	1	0	10	1	2	2	18	8
1991/92	5	5	4	2	12	2	2	3	22	12
1992/93	6	3	3	2	10	2	3	4	22	11
Assistant Professor										
1990/91	7	4	11	2	7	3	4	2	26	11
1991/92	6	4	10	0	9	4	5	2	27	10
1992/93	5	6	10	0	7	4	6	1	24	11
Totals										
1990/91	13	24	13	6	22	7	7	4	52	41
1991/92	13	24	16	7	26	8	8	5	59	44
1992/93	13	25	16	7	23	8	10	5	58	45
Non-Tenure Track Faculty (w/Ph.D.)										
1990/91	2	0	2	2	1	3	2	0	7	5
1991/92	2	0	2	1	0	2	2	0	6	3
1992/93	3	0	3	2	0	3	2	1	8	6

Table 9b. **PERCENT of Women and Minority Faculty** in Agricultural Economics Departments, by Rank and Year.

	Region									
	South		West		North Central		Northeast		Totals (All Regions)	
	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities
	Percent* (see notes)									
Professor										
1987/88	1	6	5	2	3	2	3	0		
1988/89	2	5	4	1	3	2	3	0		
1989/90	2	6	2	1	3	1	0	0		
1990/91	1	8	1	4	2	1	2	0	1	4
1991/92	1	8	1	4	2	1	2	0	2	4
1992/93	1	8	2	3	3	1	2	0	2	4
Associate Professor										
1987/88	5	4	0	0	8	0	0	0		
1988/89	2	2	0	1	4	0	3	0		
1989/90	6	5	4	4	9	0	5	3		
1990/91	6	6	2	0	11	1	7	7	8	3
1991/92	7	7	7	3	12	2	6	9	9	5
1992/93	8	4	6	4	10	2	8	11	9	4
Assistant Professor										
1987/88	11	3	22	4	14	6	22	11		
1988/89	4	1	13	2	6	2	14	11		
1989/90	12	1	26	3	15	4	17	17		
1990/91	13	7	24	4	11	5	16	8	14	6
1991/92	12	8	24	0	15	6	22	9	16	6
1992/93	11	13	24	0	13	8	27	5	16	7

continued

Table 9b. continued

	Region									
	South		West		North Central		Northeast		Totals (All Regions)	
	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities	Women	Minorities
	Percent* (see notes)									
Averages										
1990/91	4	7	6	3	6	2	7	4	5	4
1991/92	4	8	7	3	7	2	8	5	6	5
1992/93	4	8	7	3	6	2	9	5	6	5
Non-Tenure Track Faculty (w/Ph.D/)										
1990/91	22	0	13	13	4	11	50	0	19	5
1991/92	25	0	15	8	0	9	50	0	19	2
1992/93	33	0	19	13	0	16	33	17	19	10

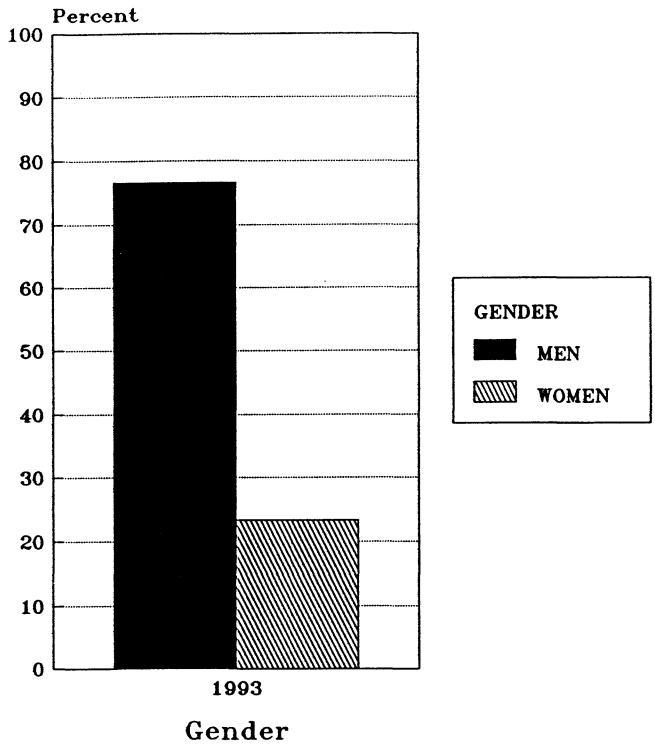
* Percentages are calculated by [(Actual numbers from Table 9a)/(Total number of Faculty from Table 6)]

Table 10. Faculty Attrition and Career Transitions (Totals)

Region	Male			Female		
	Asst. Prof	Assoc. Prof.	Full Prof.	Asst. Prof.	Assoc. Prof.	Full Prof.
Northeast						
Retirement		2	4			
Non-Ag Econ Univ. Post, (Admin.)						
Position at other University		2				
Government employment	1					
Private sector employment	1					
Employment with interest group						
Other	2	1				
Unknown						
North Central						
Retirement		6	21			
Non-Ag Econ Univ. Post, (Admin.)	1		3			
Position at other University	3	2	1			
Government employment				1	1	
Private sector employment	2	1		1		1
Employment with interest group						
Other			1			
Unknown			2			
West						
Retirement	1	7	14			
Non-Ag Econ Univ. Post, (Admin.)	1		1			
Position at other University	6	1	4			1
Government employment	3	2				
Private sector employment						
Employment with interest group						
Other	1		4	1		
Unknown	1					

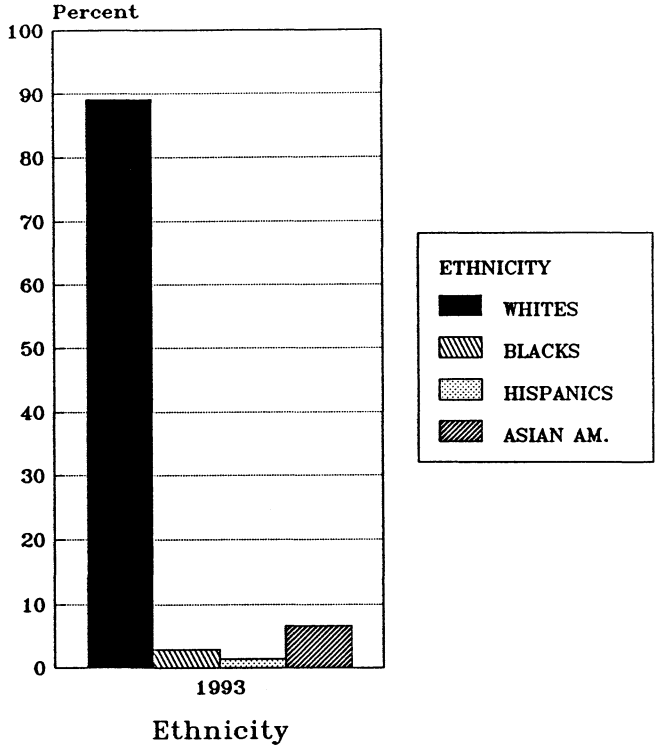
Region	Male			Female		
	Asst. Prof	Assoc. Prof.	Full Prof.	Asst. Prof.	Assoc. Prof.	Full Prof.
South Retirement		2	11			
Non-Ag Econ Univ. Post, (Admin.)			2			
Position at other University	3	1	2			
Government employment	1					
Private sector employment			1			
Employment with interest group	1			1		
Other				2		
Unknown						
Total Retirement	1	17	50			
Non-Ag Econ Univ. Post, (Admin.)	2		6			
Position at other University	12	6	7			1
Government employment	5	2		1	1	
Private sector employment	3	1	1	1		1
Employment with interest group	1			1		
Other	3	1	5	3		
Unknown	1		2			

PROFESSIONAL 110–ECONOMISTS EMPLOYED IN ERS BY GENDER IN 1993 (Total=441)



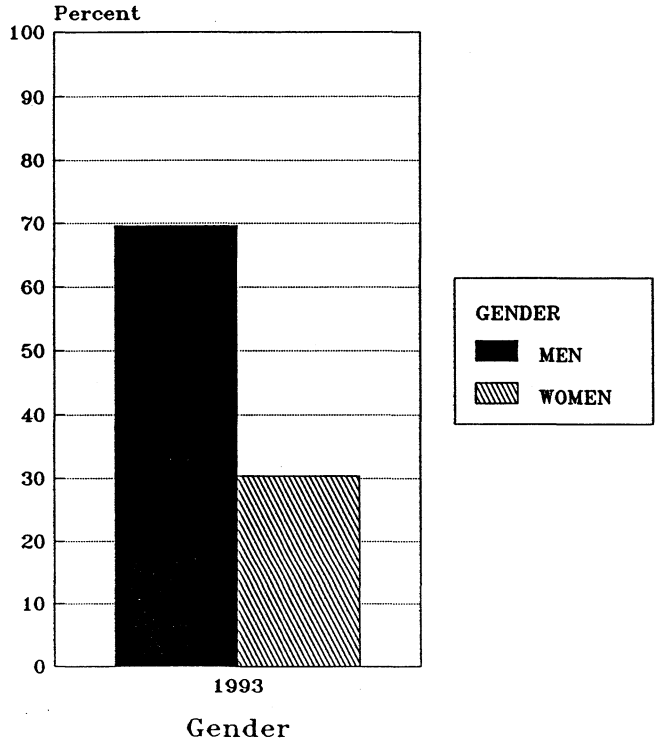
Source: Economic Research Service

PROFESSIONAL 110–ECONOMISTS EMPLOYED IN ERS BY ETHNICITY IN 1993 (Total=441)



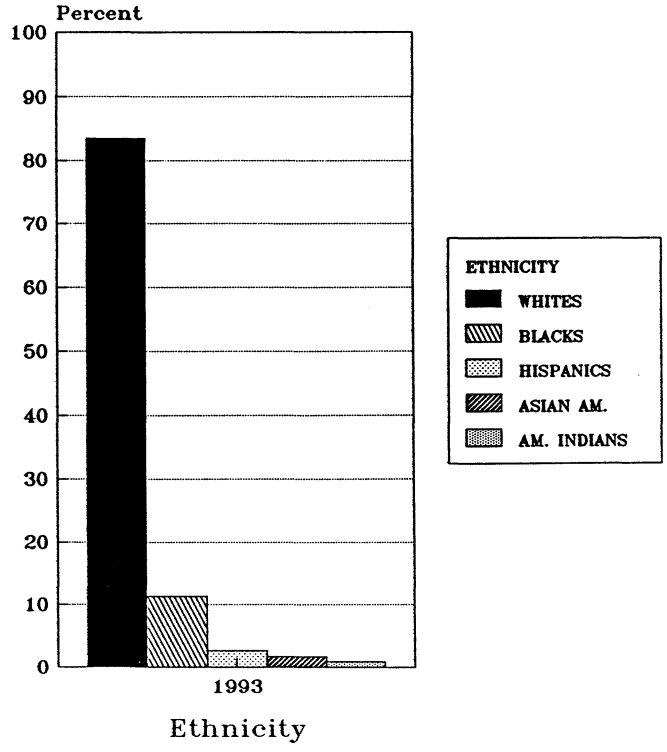
Source: Economic Research Service

PROFESSIONAL 110–ECONOMISTS EMPLOYED IN FAS BY GENDER IN 1993 (Total=115)



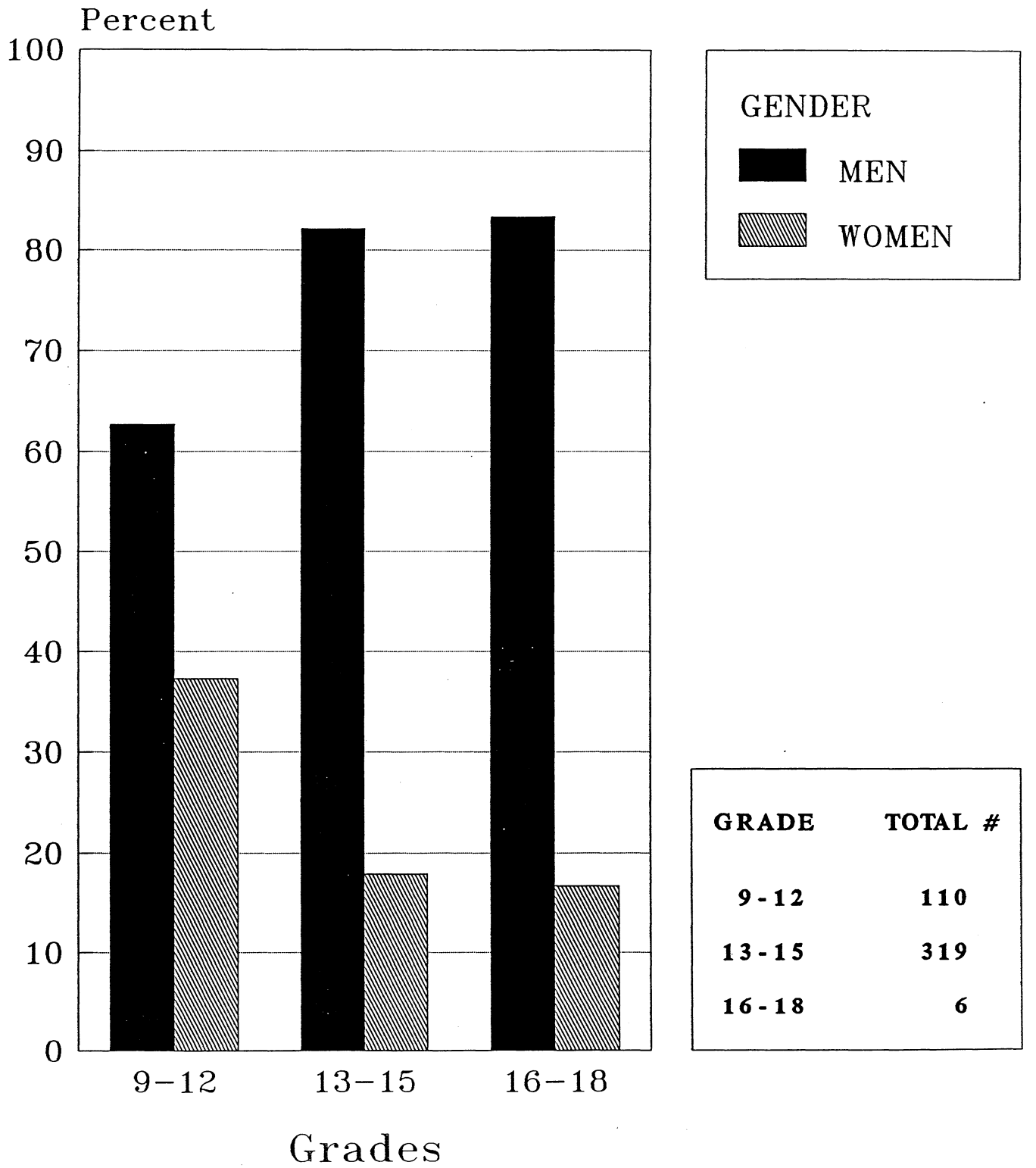
Source: Foreign Agricultural Service

PROFESSIONAL 110–ECONOMISTS EMPLOYED IN FAS BY ETHNICTY IN 1993 (Total=115)



Source: Foreign Agricultural Service

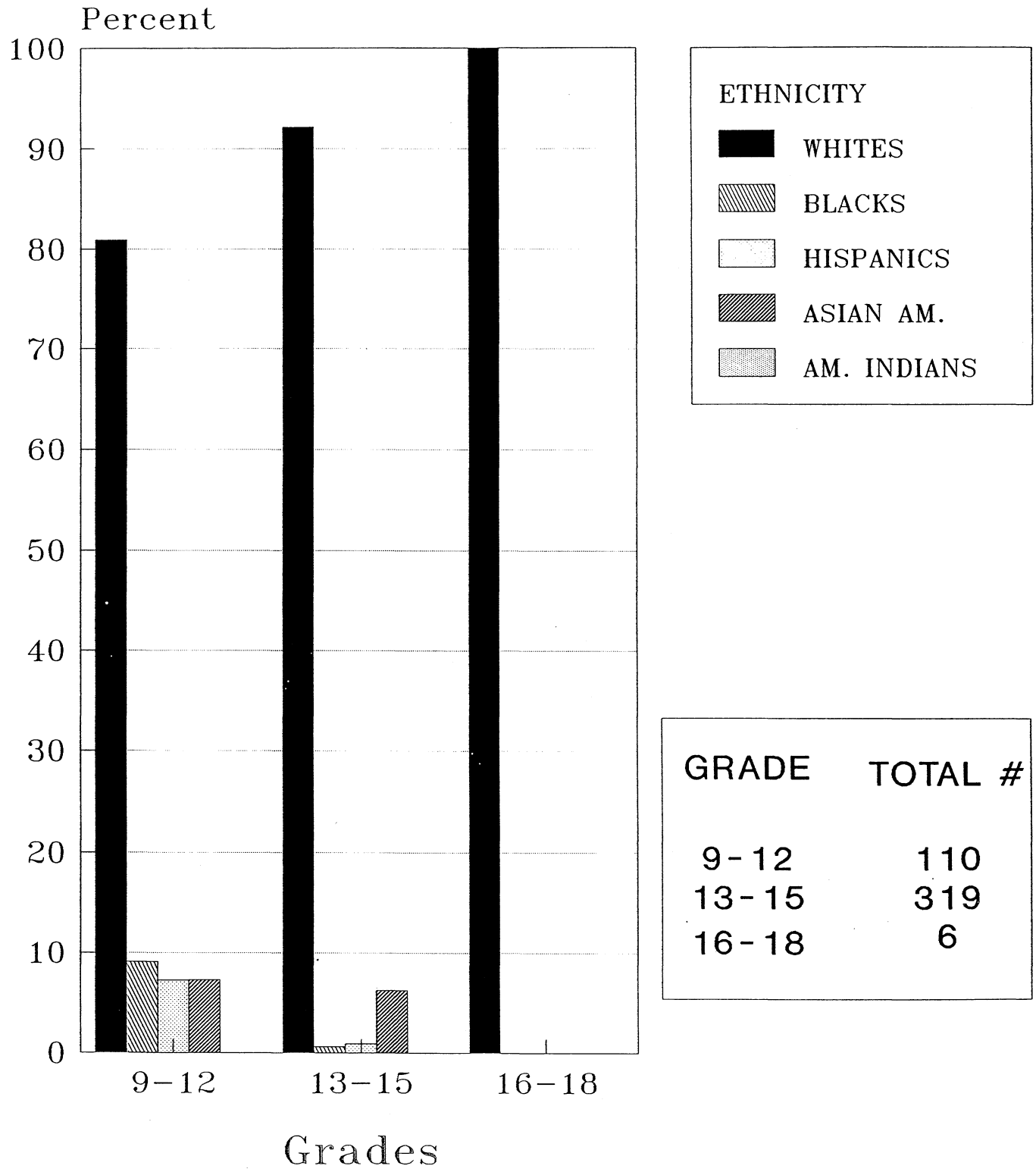
PROFESSIONAL 110–ECONOMISTS EMPLOYED IN ERS BY GRADE AND GENDER IN 1993



GRADE	TOTAL #
9-12	110
13-15	319
16-18	6

Source: Economic Research Servcice

PROFESSIONAL 110–ECONOMIST EMPLOYED IN ERS BY GRADE AND ETHNICITY IN 1993

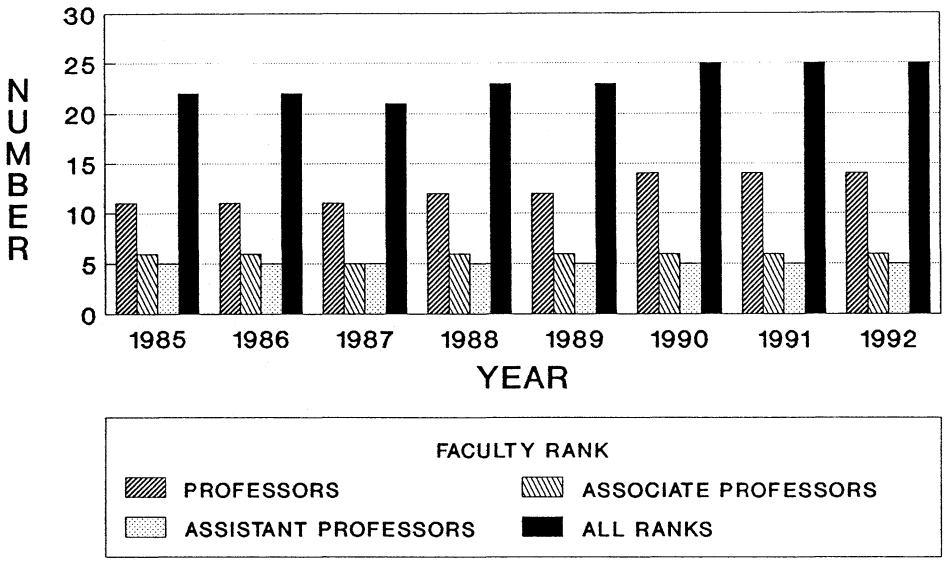


GRADE	TOTAL #
9-12	110
13-15	319
16-18	6

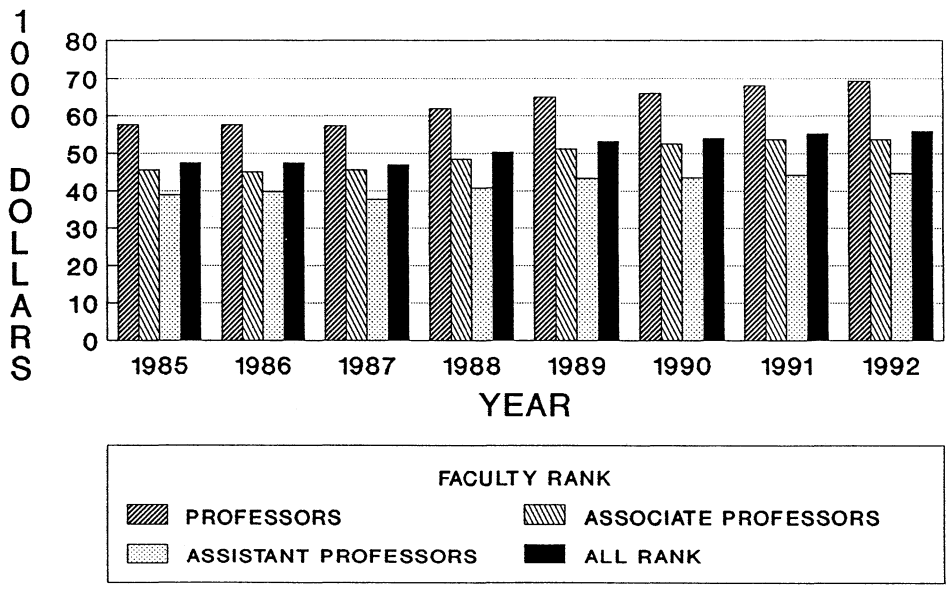
Source: U.S. Department of Agriculture

APPENDIX B

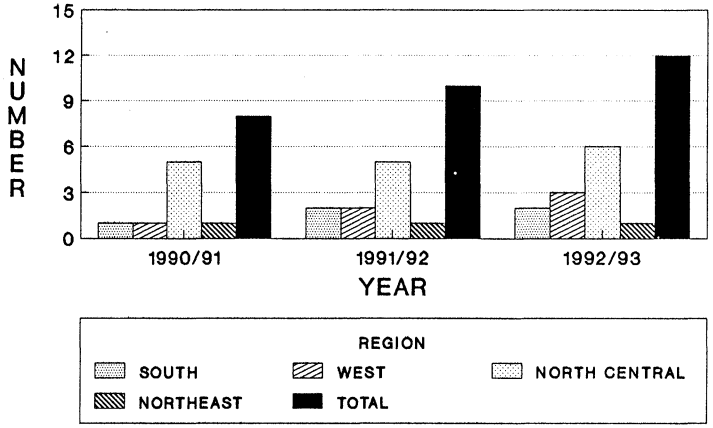
Average Number of FACULTY
Ag. Econ. Dept. by Year



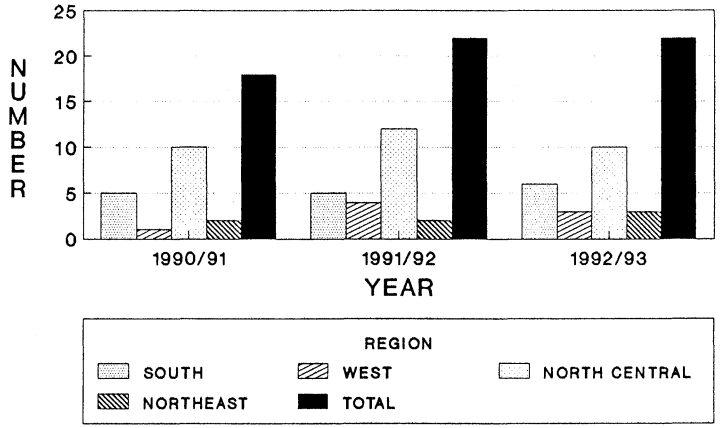
Average Salaries of FACULTY
Ag. Econ. Dept. by Year



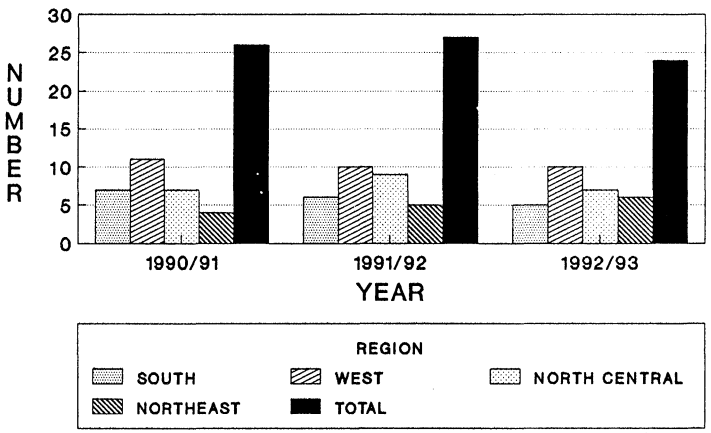
NUMBER of Women FULL PROFESSORS in Ag. Econ. Depts. by Year



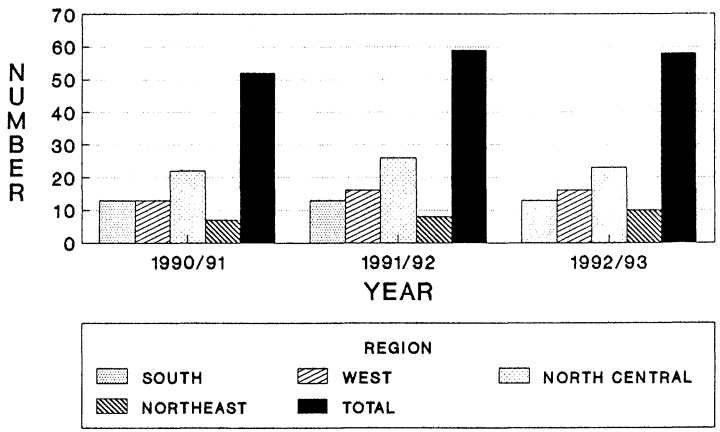
NUMBER of Women ASSOCIATE PROFESSORS in Ag. Econ. Depts. by Year



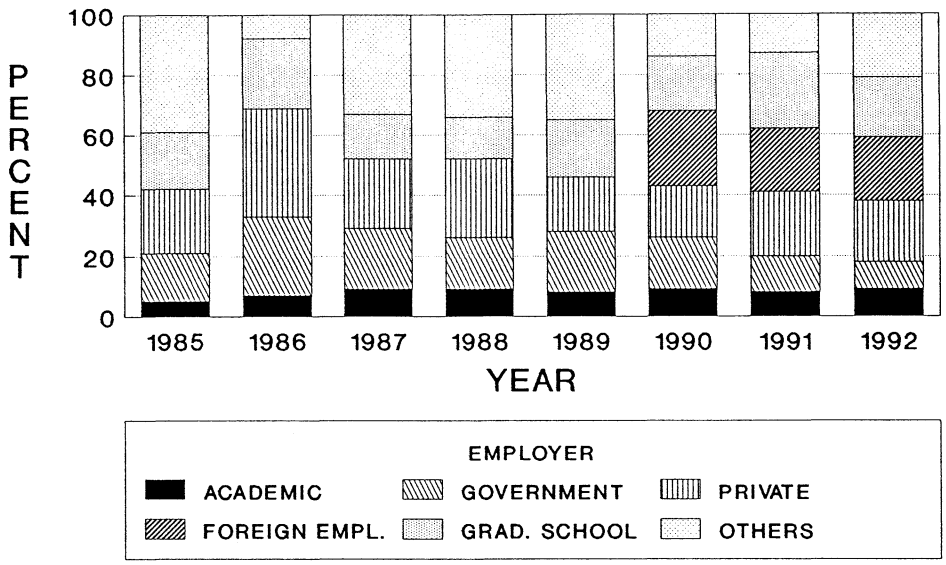
NUMBER of Women ASSISTANT PROFESSORS in Ag. Econ. Depts. by Year



TOTAL NUMBER of WOMEN FACULTY in Ag. Econ. Depts. (ALL RANKS) by Year



Placement of M.S. GRADUATES by Type of Employer



Placement of Ph.D. STUDENTS by Type of Employer