

period during which enrollment tripled. If the trend persists, future reports on degrees granted will reflect that change. Given the changes in national demographic data, changes affecting institutional planning and policy may be anticipated.

Post Graduation Activities

Forty-three institutions provided information on the post graduation activities for their graduates. In some instances, an institution provided either degrees or salary data, but not both. By its inherent nature, the placement data contains greater ambiguity than the degrees granted data. The collection difficulties are the most obvious; however, certain self-employment opportunities, e.g., in farming, make salary estimates difficult to compare. Likewise, many graduates enter service roles (e.g., Peace Corps) for which payment represents cost of living or maintenance support rather than salary. Perhaps those entering graduate study constitute the largest group (16 percent) for whom salary data may be misleading, because graduate student support is usually only nominal maintenance.

Bachelors degree

The following deployment of the B.S. graduates was reported:

Activity	Percentage
Agribusiness	23
No Information	23
Graduate, Professional Study	16
Farming	10
Government (National, State, Local)	9
Not placed, but seeking employment	6
Education, including extension	6
Other	4
Not Seeking Employment	2
Return to Own Country	1

Given the ambiguity of the data collection process, no significant trends can be claimed.

Regarding starting salaries for bachelors, the regional averages ranged between \$10,500 and \$12,600. For masters the regional averages ranged from \$13,900 to \$14,500 and for the doctors, the regional ranges were \$18,500 to \$20,250. In each degree category, the North Central regional averages are the highest.

The national composite average starting salaries for each of the three degrees are \$11,821, \$14,263, and \$19,753, respectively. The corresponding figures for 1977 are presented for comparison purposes. For each of the degrees, the annual percentage increases (9.9, 9.7, and 14.0) are substantially higher than inflation. The absolute values are also excellent. According to the College Placement Council, Salary Survey, Final Report, July 1978, the average annual salary offers reported for all agricultural science majors is \$11,580 while average annual salary offers reported for persons engaged in Farm and Natural Resource Management (all employers) is \$11,405.

ONTARIO STUDY

Enrollment Changes In Agricultural Science

G. M. Jenkinson

Abstract

Student enrollment at the Ontario Agricultural College increased from 1974 to 1977 and then declined in 1978. The decline that began in 1978 is expected to continue in future years. The proportion of female students and the proportion of urban-raised students is increasing. An increasing proportion of the new students in agriculture have been in some other university program prior to entering OAC.

During the last five years (1974-78) there have been a number of significant developments and changes in student enrollment. As indicated in Table 1, a (record) total of 2,315 students enrolled in the various undergraduate and graduate programs of the Ontario Agricultural College in 1974.

Commencing in 1975 the University of Guelph placed restrictions on undergraduate enrollment for a three-year period, terminating in 1977. Enrollment in graduate programs was effectively restrained by the freeze on government funding to the University. Graduate student enrollment remained relatively unchanged during the period even though distinct shortages of Ph.D.-trained agricultural scientists developed. Landscape Architecture is limited to an intake of 30 students per year and a total enrollment of 120 students. Enrollment in the Food and Earth Science areas of the BSc. program has remained relatively unchanged during the five-year period.

Enrollment in the Engineering program increased dramatically during the five-year period, due primarily to an increasing number of freshman students being accepted into the program.

The Diploma in Agriculture program has stabilized at an intake level of 180 students per year with a total of 335 enrolled in the program. Admission to the Diploma Program is highly competitive; in 1978 there were over 500 students seeking admission to the program with a freshman intake level of 180 students. Admissions to the program are compatible with the resources available for teaching diploma students.

B.Sc. (Agr.) Program

The remainder of this paper deals with students in the four-year B.Sc.(Agr.) degree program. Enrollment increases occurred at all faculties of agriculture in Canada in the early and mid-1970's.² Following the open admis-

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sion policy that was in effect in 1974, when a record number of 429 freshmen entered the OAC program in the fall semester, restrictions were placed on the number of students admitted. Restrictions were most severe in 1975 when the number of freshman students admitted in the fall semester was reduced by 22 percent from the year previous. Enrollment increased in the winter semester entry point in 1976 and at the advanced standing level (Table 2), reflecting a "carry-over" from the previous fall semester. Restrictions on freshman admission were relaxed gradually in 1976 and 1977. In 1978 student enrollment was "unrestrained" and all qualified students, freshman and advanced standing, were accepted. The number of advanced standing students in 1978 was identical to the enrollment level of 1977. Freshman enrollment in 1978 declined 3 percent from the 1977 level compared with an overall decline of 8 percent in the University as a whole.

In 1978 the total number of students in the B.Sc.(Agr.) program was 2 percent lower than in 1977, reflecting primarily the reduced intake of freshman students in 1975 and the resulting reduction in the graduating class of 1979.

The restrictions placed on the admission of students to the program have been terminated. Given the declining numbers of students in high school³ and the likelihood of fewer applications for admission in the years ahead, it is probable that all qualified applicants will be accepted. It is also likely that the number of advanced standing students seeking admission to the program will decline. The number of advanced standing students seeking admission reflects, to some extent, the employment opportunities for graduates in agriculture. Students in other programs in the university often transfer to agriculture as a result of favorable placement reports.

Origin of B.Sc.(Agr.) Students

Table 3 outlines the province and/or country of origin of B.Sc.(Agr.) students during the five-year period. Approximately 90 percent of the freshman students originate from the Province of Ontario, whereas over 40 percent of the advanced standing students originate from outside the province. The number of students transferring from the Nova Scotia Agricultural College has increased significantly over the past eight years. N.S.A.C. offers the first two years of a four-year degree program, and students may complete their degrees at various other faculties of agriculture. Plans are being made to establish a third and fourth year curriculum at N.S.A.C. within the next few years. Similarly, the number of students from the Province of Quebec increased significantly during the 1970's. During the period when admission to the program was restricted, some preference was given by the Admissions Committee to Ontario students. During this period the number of students from Quebec was only half that of the levels in 1974 and 1978. The proportion Ontario-raised students was lowest in 1978, reflecting the fact that all qualified students were accepted to the program including the increasing number of advanced standing transfer applicants from out of province.

Table 1. OAC STUDENT ENROLLMENT

	Number of Full Time Students - Fall Semester				
	1974	1975	1976	1977	1978
B.Sc. (Agr.) Program	1327	1329	1460	1564	1534
Engineering	162	189	235	271	249
Landscape Architecture	121	121	122	113	115
Food/Earth Science	105	110	114	118	98
Diploma in Agric.	342	342	327	336	336
M.Sc. and Ph.D.	238	263	275	259	265
	<u>2315</u>	<u>2354</u>	<u>2533</u>	<u>2662</u>	<u>2597</u>
Change from previous year		+1.7%	+7.6%	+5.1%	-2.4%

During the five-year period there has been an increase in the number and proportion of transfer students. In 1974 transfer students made up 24 percent of the intake of new students; by 1978 transfer students represented 32 percent of the total intake (Table 2). The number of students from countries other than Canada has doubled during the five-year period. It should be noted, however, that the number of students from foreign countries is exceedingly small (approximately 5 percent of the total), and many are sponsored by various government agencies and organizations.

Relatively few students enter the B.Sc.(Agr.) program from Western Canada. The four Maritime provinces contribute the largest single group of out-of-province students, followed by the Province of Quebec. The majority of the Quebec students enter the program because of an interest in veterinary medicine.

Over half (53 percent) of the new students who entered the program during the past five years originated from ten countries or regions in Ontario. These areas all have large metropolitan centers and are becoming increasingly urbanized. It is not surprising that the proportion of students entering the B.Sc.(Agr.) program with agricultural experience is declining. Approximately 30

Table 2. Admission Of New Students B.Sc. (Agr.) Program

YEAR		ENTRY POINT				% WITH ADV. STANDING
		WINTER	SPRING	FALL	TOTAL	
1974	Freshmen	5	36	429	470	24%
	Adv. Stdg.	28	3	118	149	
		<u>33</u>	<u>39</u>	<u>547</u>	<u>619</u>	
1975	Freshmen	18	31	333*	382	26%
	Adv. Stdg.	42	5	84*	131	
		<u>60</u>	<u>36</u>	<u>417*</u>	<u>513</u>	
1976	Freshmen	40	23	367	430	32%
	Adv. Stdg.	57	11	136	204	
		<u>97</u>	<u>34</u>	<u>503</u>	<u>634</u>	
1977	Freshmen	32	24	406	462	31%
	Adv. Stdg.	78	8	122	208	
		<u>110</u>	<u>32</u>	<u>528</u>	<u>670</u>	
1978	Freshmen	22	29	398	449	32%
	Adv. Stdg.	55	10	143	208	
		<u>77</u>	<u>39</u>	<u>541</u>	<u>657</u>	

*Commencement of restrictions on enrollment

Table 3. Origin of New Students - B.Sc. (Agr.) Program September 1978.

Origin	1978					PREVIOUS YEARS			
	Freshmen		Advanced Standing		Total	1977 Total	1976 Total	1975 Total	1974 Total
	Female	Male	Female	Male					
Ontario	129	214	38	44	425	425	406	360	454
Newfoundland			4	1	5	4	1	1	2
P.E.I.				5	5	8	4	5	5
Nova Scotia			10	8	18	20	26	9	10
New Brunswick	1	1	5	5	12	17	5	6	7
Quebec	5	8	6	7	26	15	16	12	31
Manitoba		2			2	3	1		1
Saskatchewan						1			2
Alberta	1			2	3	2	1	2	2
British Columbia		1	1		2	4	1	2	7
Unspecified/Other	3	2	1	1	7				1
TOTAL CANADA	139	228	65	73	505	499	461	397	522
OTHER COUNTRY	4	18	2	6	30	15	16	10	15
GRAND TOTAL	143	240	67	79	535	514	477	407	537
ONTARIO AS % OF TOTAL	90	89	57	56	79	83	85	88	85

Table 4. Comparative Summary of Number of Students Admitted.

Origin	SEMESTER 1					ADVANCED STANDING				
	1978	1977	1976	1975	1974	1978	1977	1976	1975	1974
ONTARIO	343	364	332	306	386	82	61	74	54	68
OTHER PROVINCE	24	17	11	14	29	56	57	44	24	39
OTHER COUNTRY	22	8	7	8	7	8	7	9	2	8
	389	389	350	328	422	146	125	127	80	115

percent of the new students entering the B.Sc.(Agr.) program in 1977 had been raised on farms or had significant farm experience. These students reported their farm or agricultural experience as follows:

urban raised - no experience	13%
visits/vacations on relative's farm	8
raised/cared for animals	10
worked on farm weekends and/or summer	30
farm raised - maximum experience	33
inaccurate/no response	6
	100%

Over 60 percent of the freshman class had some level of practical experience in agriculture; 13 percent had no experience.

Female Students

A significant proportion (39 percent) of the new students entering the B.Sc. (Agr.) program in 1978 were female, as compared with 27 percent in 1974. (Table 5). Reasons advanced for the steady increase are the number of women students interested in veterinary medicine and the generally increasing trend of women to enter professional fields, including agriculture. For some reason unknown to the author the proportion of women is higher in the advanced standing group.

Conclusions

The enrollment of freshman students in 1974 in the B.Sc.(Agr.) program established an all-time high level; in subsequent years freshman enrollment declined due to restrictions placed on the number of students admitted to the program. More students were accepted in 1977 as

compared to 1975 or 1976, resulting in a modest overall increase in the College. Total enrollment in the College actually declined in 1978, the beginning of a trend that is expected to continue over the next five to ten years.

Continuing declines in university student enrollment are projected for the next 10-15 years³. Agriculture programs will experience this decline although not to the full extent. Professional and/or career-oriented programs are expected to attract an increasing proportion of the declining number of university students.

The proportion of women students entering the program is expected to level off in the 35-40 percent range. The proportion of advanced standing students will also level off at approximately one-third of the total intake.

References

1. Jenkinson, G. M. 1977. Manpower for Research and Education. Agricultural Institute of Canada. *Agrologist* 6:1.
2. Jenkinson, G. 1978. Canadian Enrollment in Agriculture and Veterinary Medicine. *NACTA Journal* 22:1.
3. Commission on Post Secondary Education in Ontario. 1971. Draft Report. Government of Ontario, Toronto.

Table 5. Proportion of Female Students

	SEMESTER 1	ADVANCED STANDING	TOTAL
1974	26%	31%	27%
1975	33	33	33
1976	31	44	35
1977	37	38	37
1978	37	46	39

1978 FALL AGRICULTURAL ENROLLMENT

NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Introduction

The Resident Instruction Committee on Policy has monitored agricultural enrollments in member institutions for many years. The format of these reports has been revised and standardized by the Subcommittee on Enrollment and Placement. Some detail has been dropped, e.g., all majors and specializations have been grouped into seven categories, and some detail, e.g., minority enrollment, has been added.

The current members of the subcommittee are as follows: L. P. Carter, Montana State University; S. R. Chapman, Clemson University; J. R. Cooke, Cornell University; A. D. Goecker, Purdue University; W. E. Pullen, University of Maine. Clarifications or supplementary data should be sent to J. Robert Cooke, 192 Roberts Hall, Cornell University, Ithaca, NY, 14853.

Limitations of the Data

At the time of the writing of this report data for 16 of the 72 institutions were not available; 12 of the 16 have undergraduate enrollments below 500 and all 16 collectively account for approximately 6 percent of the national undergraduate enrollment.

Rank orders listing of Agricultural Enrollment by Degree

Two-year programs

Ohio State	778
Maine	395
Purdue	219
Connecticut	157
Nevada	28
New Hampshire	2

The 20 largest undergraduate programs

Ohio State	4772
Davis (CA)	4623
Texas A&M	4139
Michigan State	3673
Penn State	3593
Purdue (Lafayette)	3438
Iowa State	3352
N. Carolina St.	3294

This article is adapted from a preliminary report and final data prepared by the Enrollment and Placement subcommittee of the Resident Instruction Committee on Policy (RICOP) of the Division of Agriculture, National Association of State Universities and Land Grant Colleges. We appreciate the excellent cooperation of J. Robert Cooke, Director of Resident Instruction, Cornell University, for the wealth of data. We would like to thank the other members of the committee, Lark P. Carter, Stephen R. Chapman, A.D. Goecker, and Winston E. Pullen, for the changes in reporting made this year which should make the data more reliable. We are sorry that limited space does not permit us to publish the specific details for each institution reporting.

Massachusetts	3065
Cornell (NY)	2956
Rutgers	2830
Missouri	2521
Illinois	2416
Virginia Poly.	2331
Kansas State	2138
Maine	1912
Nebraska	1811
Oklahoma State	1795
West Virginia	1717
Wisconsin	1691

The 20 largest masters programs

Texas A&M	714
Wisconsin	605
No. Carolina St.	602
Ohio State	557
Cornell (NY)	505
Michigan State	495
Florida	410
Rutgers	407
Louisiana St.	380
Virginia Poly.	379
Purdue (Lafayette)	338
Washington St.	337
Missouri	301
Illinois	287
Massachusetts	279
Tennessee	262
Oregon State	258
Nebraska	256
Maryland	253
Mississippi St.	245

The 20 largest doctoral programs

Wisconsin	569
Cornell	466
Texas A&M	405
Michigan St.	373
No. Carolina St.	332
Purdue	277
Ohio State	274
Illinois	262
Florida	233
Nebraska	161
Oregon State	148
Missouri	132
Washington St.	131
Kentucky	128

Through the earlier efforts of Jerome K. Pasto, College of Agriculture, The Pennsylvania State University, RICOP has given permission to NACTA Journal to publish yearly agricultural enrollment reports so they become a matter of public record.

Maryland	126
Massachusetts	116
Louisiana State	112
Arizona	110
Rutgers	86
Mississippi St.	83

Enrollment by Region

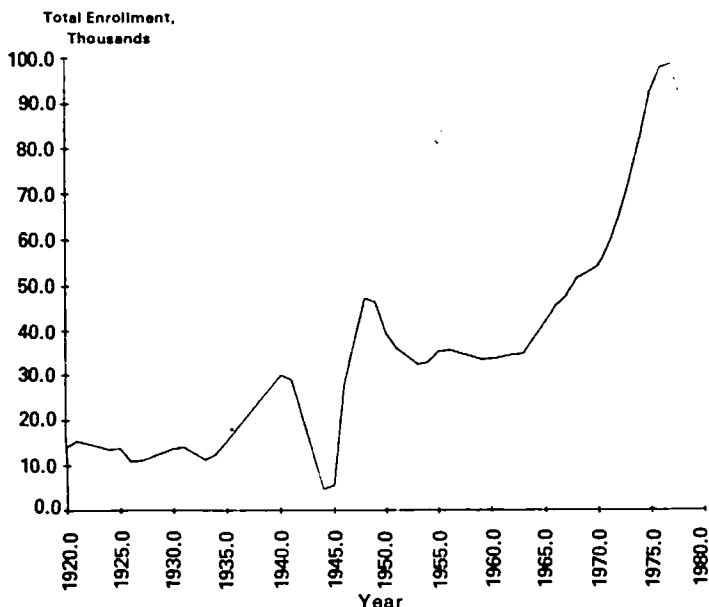
Region	"Total Agriculture" Enrollment			
	# colleges	2 yr	4 yr	grad total
Northeast	14	554	20,354	3,507 23,861
South	27	0	25,487	5,879 31,366
North Central	15	997	27,284	5,801 33,085
West	16	28	12,964	2,157 15,121

Undergraduate Enrollment for All Institutions by Class

Beginning in 1978, total enrollment includes all programs administered by Colleges of Agriculture. For the colleges included in the survey 28.00 percent of the undergraduates are seniors. This is followed by 25.91 percent juniors; 23.01 percent freshmen; and 21.28 percent sophomores. These data appear to reflect a slight attrition from the freshman to sophomore year but the larger junior class suggests an influx of transfer students. The largest percentage at the senior year probably is due to graduation requiring slightly more than four years to achieve.

Data on the relative sizes of the undergraduate classes was gleaned from the earlier enrollment reports prepared by Dean Louis M. Thompson at Iowa State. The 1978 figures were adjusted to delete the "other programs administered by College of Agriculture" and to account for the data from the colleges not yet reporting. (The missing colleges accounted for 5.9 percent of the enrollment last year.) Prior to 1974 the senior class was as small as the sophomore class, but by 1977 it had become the largest.

Figure 1. Agricultural Undergraduate Enrollment (excluding other programs such as Home Economics)



Another striking feature is the relative maximum reached in 1977. The 1978 undergraduate enrollment dropped to approximately the 1975 level.

Figure 1 shows the total agricultural undergraduate enrollment since 1920. The sharp increase in enrollment which began in the mid 60's has reached a peak and has begun to decline. That a peak has been reached is really no surprise. Figure 2 shows the 18-year old population which began a precipitous decline this year and is expected to drop by 20 percent during the next ten years. Then after a modest increase, a further decrease is expected.

Figure 2. 18 Year Old Population 1975-1992. 1975 = 1.0 (index)
Index 1975 = 1.0

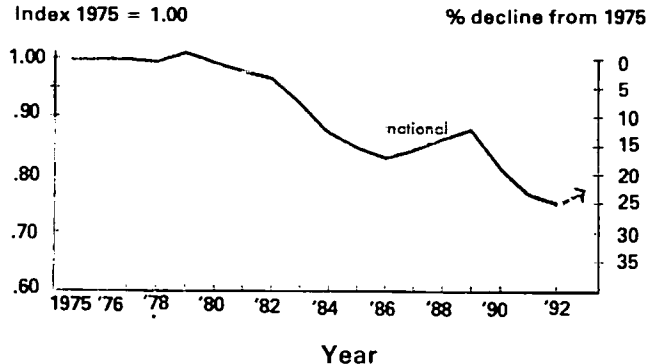
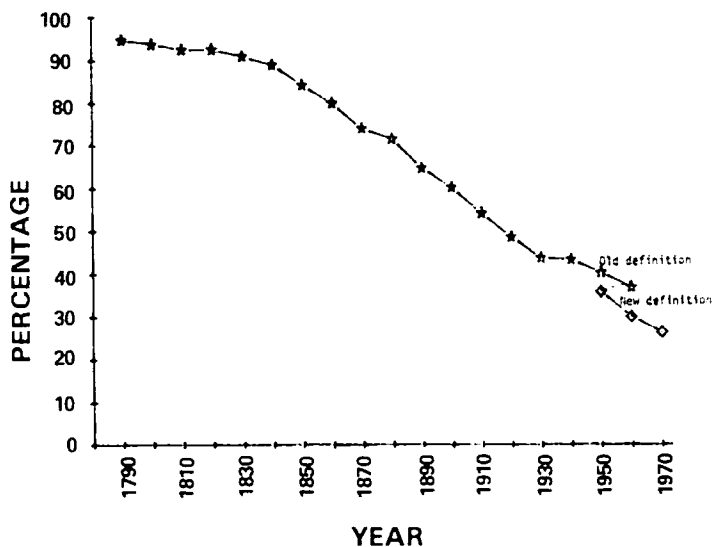


Figure 3. Percentage of U.S. Population Classified as Rural



Farm reared youth no longer constitute a majority of our student bodies. Figure 3 shows that the rural farm plus rural non-farm population constitutes an ever decreasing percentage of the total population.

Graduate Enrollment

Given the incompleteness of the data little can be said about graduate enrollment since estimates from previous years are not available for each school.

Undergraduate Enrollment

The undergraduate enrollment is also more or less evenly divided among the fields of study - but with natural resources the highest (19.3%) and general agriculture (10.4%) the lowest.

Under Graduate Enrollment
All Institutions By Field of Study
Fall Term (Selected Years)

Field Of Study	Year				
	1974	1975	1976	1977	1978
Total					98,030
Under Graduates....	-	-	-	-	100.00
PERCENT.....	-	-	-	-	
Animal Science					16,901
Under Graduates....	-	-	-	-	17.24
PERCENT.....	-	-	-	-	
Plant-Soil Science					15,661
Under Graduates....	-	-	-	-	15.98
PERCENT.....	-	-	-	-	
Social Science					13,990
Under Graduates....	-	-	-	-	14.27
PERCENT.....	-	-	-	-	
Natural Resources					19,327
Under Graduates....	-	-	-	-	19.72
PERCENT.....	-	-	-	-	
Related Sciences					13,875
Under Graduates....	-	-	-	-	14.15
PERCENT.....	-	-	-	-	
General Agriculture					10,225
Under Graduates....	-	-	-	-	10.43
PERCENT.....	-	-	-	-	
Total Agriculture					89,979
Under Graduates....	-	-	-	-	91.79
PERCENT.....	-	-	-	-	
Other Programs					8,051
Under Graduates....	-	-	-	-	8.21
PERCENT.....	-	-	-	-	

- DATA NOT AVAILABLE.

NOTE: Beginning in 1978, Total Enrollment includes all programs administered by Colleges of Agriculture. Prior to 1978 Home Economics and Veterinary Medicine were excluded.

Enrollment of Women

Women constitute about 30 percent of the national enrollment and are distributed rather evenly across the various fields. The number of women enrolled has doubled since 1973; in the same period, the number of men increased by less than 10 percent. Along with men the total number of women dropped during the past 12 months.

Enrollment of Women
All Institutions By Field of Study
Fall Term (Selected Years)

Field Of Study	Year				
	1974	1975	1976	1977	1978
Total Enrollment (All Institutions)....	-	-	-	-	119,014
PERCENT.....	-	-	-	-	100.00
Total Women.....	-	-	-	-	34,822
PERCENT.....	-	-	-	-	29.26
Animal Science					6,738
Women.....	-	-	-	-	5.66
PERCENT.....	-	-	-	-	
Plant-Soil Science					5,746
Women.....	-	-	-	-	4.83
PERCENT.....	-	-	-	-	
Social Science					3,011
Women.....	-	-	-	-	2.53
PERCENT.....	-	-	-	-	
Natural Resources					4,997
Women.....	-	-	-	-	4.20
PERCENT.....	-	-	-	-	
Related Sciences					5,577
Women.....	-	-	-	-	4.77
PERCENT.....	-	-	-	-	
General Agriculture					2,989
Women.....	-	-	-	-	2.51
PERCENT.....	-	-	-	-	
Total Agriculture					29,158
Women.....	-	-	-	-	24.50
PERCENT.....	-	-	-	-	
Other Programs					5,664
Women.....	-	-	-	-	4.76
PERCENT.....	-	-	-	-	

- DATA NOT AVAILABLE.

Enrollment of Minorities

Given the limited number of institutions which provided data, little can be said. The data suggest that minorities are approximately evenly distributed among the fields.

Enrollment of Minorities
All Institutions By Field of Study
Fall Term (Selected Years)

Field of Study	Year				
	1974	1975	1976	1977	1978
Total Enrollment (All Institutions)....	-	-	-	-	119,014
PERCENT.....	-	-	-	-	100.00
Total Minorities.....	-	-	-	-	2,812
PERCENT.....	-	-	-	-	2.36
Animal Science					410
Minority.....	-	-	-	-	.34
PERCENT.....	-	-	-	-	
Plant-Soil Science					427
Minority.....	-	-	-	-	.36
PERCENT.....	-	-	-	-	
Social Science					434
Minority.....	-	-	-	-	.36
PERCENT.....	-	-	-	-	
Natural Resources					352
Minority.....	-	-	-	-	.30
PERCENT.....	-	-	-	-	
Related Sciences					563
Minority.....	-	-	-	-	.47
PERCENT.....	-	-	-	-	
General Agriculture					301
Minority.....	-	-	-	-	.25
PERCENT.....	-	-	-	-	
Total Agriculture					2,487
Minority.....	-	-	-	-	2.09
PERCENT.....	-	-	-	-	
Other Programs					325
Minority.....	-	-	-	-	.27
PERCENT.....	-	-	-	-	

- DATA NOT AVAILABLE.

Graduate Enrollment

Graduate enrollment is substantially the highest in the "related sciences" and decidedly lowest for general agriculture (2.5%).

Graduate Enrollment
All Institutions By Field of Study
Fall Term (Selected Years)

Field Of Study	Year				
	1974	1975	1976	1977	1978
Total					20,984
Graduate Students....	-	-	-	-	100.00
PERCENT.....	-	-	-	-	
Animal Science					2,575
Graduate Students....	-	-	-	-	12.77
PERCENT.....	-	-	-	-	
Plant-Soil Science					4,121
Graduate Students....	-	-	-	-	19.64
PERCENT.....	-	-	-	-	
Social Science					3,909
Graduate Students....	-	-	-	-	18.63
PERCENT.....	-	-	-	-	
Natural Resources					2,757
Graduate Students....	-	-	-	-	13.14
PERCENT.....	-	-	-	-	
Related Sciences					6,341
Graduate Students....	-	-	-	-	30.22
PERCENT.....	-	-	-	-	
General Agriculture					540
Graduate Students....	-	-	-	-	2.57
PERCENT.....	-	-	-	-	
Total Agriculture					20,347
Graduate Students....	-	-	-	-	96.96
PERCENT.....	-	-	-	-	
Other					537
Graduate Students....	-	-	-	-	3.04
PERCENT.....	-	-	-	-	

- DATA NOT AVAILABLE.

NOTE: Beginning in 1978, Total Enrollment includes all programs administered by Colleges of Agriculture. Prior to 1978 Home Economics and Veterinary Medicine were excluded.