

Canadian Enrollment In Faculties Of Agriculture In Canada - 1983

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Abstract

The Association of Faculties of Agriculture in Canada has been publishing enrollment data together with data on the number of graduates at the Bachelor, M.Sc. and Ph.D. levels on an annual basis since 1978.

Canadian faculties of agriculture are going through enrollment patterns similar to those presently being observed in the United States. Declines at the bachelor level and modest increases in the graduate level have been the trend in both countries from 1978 to 1981. In 1982 there was significant upward trend in graduate enrollment that continued in 1983.

Enrollment in Canadian faculties of Agriculture has been reported annually in the **NACTA Journal** and was summarized for the 1977 to 1980 period in the **Journal** in March 1981 (1). The Association of Faculties of Agriculture in Canada (AFAC) is continuing its program of data collection as reported last year (2).

This report covers the six year period from 1978 to 1983 inclusive and provides additional data as collected in the AFAC format on the number of graduates annually in various disciplines. All data is reported circa October 1, plus or minus ten days.

Undergraduate student enrollment patterns in agricultural faculties in Canada are similar to those reported in the United States (5). Concerns about the low number of Ph.D. graduates were expressed at the Vancouver Forum sponsored by the Agricultural Institute of Canada in July 1982 (6). Recent increases in M.Sc. and Ph.D. enrollment are encouraging although demand continues to outpace enrollment. It is ex-

pected that the Ph.D. supply will come closer to demand as the recent increases in graduate enrollment of 11 - 12 percent per annum in each of the last two years moves through the system.

Undergraduate Enrollment

Enrollment in undergraduate degree programs peaked in 1979 following substantial growth in the early and mid parts of the 1970's. Enrollment in 1980 and 1981 declined 5 percent each year with a further decline of 2 percent in 1982 (Table 1) resulting in a total decline of over 12 percent in 3 years. Enrollment in agriculture programs in 1983 stood at 87 percent of the level achieved 5 years earlier - an average decline of 3 percent per year. Further declines are expected over the next several years as the high school population continues to decline, although there may be increases in the proportion of high school graduates going to university that will offset part or all of the expected decline.

Enrollment in diploma (2 year) programs has remained relatively constant over the 1978 to 1983 period, ranging from a low of 1,229 students in 1978 to a high of 1,287 in 1981. Growth over the 5 year period is a modest 2 percent.

The AFAC data (3) provides a summary of the number of graduates in agriculture by discipline. From 1977-78 to 1980-81 the number of graduates increased 15 percent reflecting previous increases in freshmen enrollment (Table 2). In 1981-82 the number of graduates fell significantly erasing almost all of the increase in the 3 previous years. Declines were greatest in the Plant Science, Food Science and "other" categories. There was an increase in 1982-83, par-

Table 1. Undergraduate Enrollment Canadian Faculties of Agriculture 1978-1983

	4-YR DEGREE						2-YR DIPLOMA					
	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
Nova Scotia Agricultural College	197	173	178	181	219	256	250	280	280	259	263	223
Laval University	968	990	905	803	738	745						
Macdonald College (all programs)	728	806	650	677	651	659	96	100	90	103	80	77
B.Sc. (Agr.) only	493	539	527	532	535	542						
Ontario Agricultural College (all programs)	1983	2037	1998	1930	1803	1584	336	351	394	416	416	390
B.S.C. (Agr.) only	1534	1502	1527	1394	1344	1276						
University of Manitoba	688	592	596	560	615	616	265	259	245	245	240	286
University of Saskatchewan	488	501	509	511	545	566	282	242	240	264	275	275
University of Alberta	533	534	504	340	397*	471*						
University of British Columbia	398	415	428	393	333	393						
Total	5983	6048	5768	5395	5301	5290	1229	1232	1249	1287	1274	1251

Date: circa October 1 each year

* includes 24 B.Sc. students in Food Science in 1982 and 36 in 1983; program not included in previous years.

Note: Laval excludes students in Home Economics; Alberta excludes students in Forestry; O.A.C. includes Food Science, Engineering and Landscape Architecture; Macdonald includes Engineering and Food Science.

TABLE 2. Number of B.Sc. (Agr.) Level Graduates - Faculties of Agriculture in Canada, 1977-78 to 1982-83.

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
Animal Science	275	300	273	275	282	283
Plant Science	282	274	259	279	232	279
Agricultural Economics	168	160	172	183	192	185
Food Science	139	109	118	113	99	92
Engineering	103	104	127	151	137	161
Other	178	241	281	310	255	265
Total	1145	1188	1230	1311	1197	1265
% Female	26	31	32	34	35	37

ticularly in Plant Science and in Engineering. The proportion of female graduates rose to an all time high of 37 percent in 1982-83.

In September 1983 the Nova Scotia Agricultural College began offering the third year curriculum. This development will result in increased enrollment at that institution over the next few years with corresponding declines at Macdonald College and at the Ontario Agricultural College. The first N.S.A.C. graduates will complete their degrees in April 1985.

Graduate Enrollment

Table 3 shows the graduate enrollment in faculties of agriculture from 1977 to 1983 by combining the data as reported in the NACTA Journal (2) and the AFAC report (3) for 1983. Enrollment growth was slow with relatively little change until 1982 when M.Sc. enrollment increased 10 percent and Ph.D. enrollment increased 13 percent. A study done under the auspices of AFAC (4) in 1981 projected a deficiency of Ph.D. graduates in agriculture in Canada over the next 5 to 10 years. More recent estimates (6) confirmed this shortage and projected a continuing deficiency even with enrollment increases of 10 percent to 15 percent in 1982. However, further enrollment increases at the graduate level in 1983 plus a lower demand for graduates will eventually result in a better balance between supply and demand.

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TABLE 3. Graduate Enrollment in Canadian Faculties of Agriculture, 1977-1983.

	1977		1978		1979		1980		1981		1982		1983	
	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.
Laval University	94	11	105	12	119	16	121	23	123	27	136	28	182	40
Macdonald College	141	64	124	70	95	81	119	62	126	63	145	69	172	72
Ontario Agricultural College	239	65	242	73	257	65	284	70	303	77	333	114	335	124
University of Manitoba	165	70	164	65	168	62	166	54	159	54	183	58	198	58
University of Saskatchewan	88	34	74	38	67	40	68	35	79	36	98	33	115	44
University of Alberta	143	51	136	42	131	48	118	46	113	49	112	55	119	62
University of British Columbia	92	41	101	45	112	57	112	57	105	52	104	48	124	49
Total	962	336	946	345	949	369	988	347	1008	358	1111	405	1245	449
Total Graduate Students	1298		1291		1318		1335		1366		1516		1694	

Data obtained from that submitted to the annual meetings of the Deans of Agriculture and Veterinary Medicine. All data taken from September registration figures, full-time and part-time students.

Table 4 shows the number of graduates from M.Sc. and Ph.D. programs from 1979-80 to 1982-83. The number of Ph.D. graduates increased from 58 to 75. Further increases are necessary over the next 5 years if existing staff in Agriculture Canada and in the faculties of agriculture are to be replaced. The number of M.Sc. graduates increased slightly during the same period.

The increase in graduate enrollment in 1982 and again in 1983 reflects an increased awareness on the part of students and faculty of the pending shortages at the Ph.D. level. It also reflects the downturn in the Canadian economy and the difficulty some bachelor's graduates had in finding employment in 1982 and 1983. A similar situation is projected by the author for 1984 although many faculties have reached their physical capacity in graduate student enrollment and there is some improvement expected in the number of employment positions available to bachelor's graduates.

TABLE 4. M.Sc. and Ph.D. Graduates Canadian Faculties of Agriculture, 1979-80 to 1982-83

	1979-80		1980-81		1981-82		1982-83	
	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.
Laval University	32	1	24	1	20	3	33	3
Macdonald College	31	10	22	11	37	7	29	13
Ontario Agricultural College	87	14	92	19	104	11	88	21
University of Manitoba	40	13	40	13	51	11	33	13
University of Saskatchewan	18	7	18	10	24	9	24	9
University of Alberta	25	6	31	7	23	15	33	8
University of British Columbia	16	7	24	7	19	8	19	8
Total	249	58	241	68	278	64	259	75
Total Graduate Students	307		309		342		334	
% Female	11%		25%				23%	

Summary

Canadian faculties of agriculture experienced an overall increase of 24 percent in the last two years in graduate enrollment, a reflection of job availability at the undergraduate level and an increased awareness of the requirement for more Ph.D. graduates in agriculture. Enrollment at the undergraduate level in both degree and diploma programs continued to decline in 1983. This trend may continue for a number of years as high school populations decrease. The proportion of women students in undergraduate programs appears to be levelling off between 35 percent and 40 percent.

References

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CASE STUDY

Freshman - Upperclass Student Partnership

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Introduction

College attrition studies indicate that a significantly large number of college drop-outs experience little or no close personal identification with other college students or groups. According to Astin, student involvement, including extracurricular activities, is one key to reducing attrition. Astin states that "efforts to increase student involvement will not only enhance the student's ability to persist but will also intensify the impact of the undergraduate experience on the student's personality, behavior, career progress, and satisfaction." If indeed, this lack of close identification with other students and groups is a primary causal factor it seems reasonable to assume that a systematic program to provide support of this nature for college freshmen would have a significant impact upon a student's persistence in college. An experimental program designed to address this problem was implemented during the fall semester of 1982 in the College of Agriculture at the University of Nebraska-Lincoln.

The purpose of the program referred to as Ag Partners was to provide incoming freshmen students with an opportunity to identify on a more personal basis with a supportive upperclass student; introduce college freshmen to groups and or organizations with whom he or she had similar interests; acquaint college freshmen with good study techniques, e.g., budgeting time, use of the library and taking notes and examinations; and reinforce the academic advising program by encouraging students to seek assistance from their academic advisors concerning educational and professional planning and goals.

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Situation

The College of Agriculture at the University of Nebraska-Lincoln offers seventeen majors in agricultural and natural resource fields. Approximately 1900 undergraduate students were registered in the College of Agriculture during the first semester 1982-83. Each fall the freshmen class consists of approximately 400 students. Approximately 20 percent of the student body in the College of Agriculture is female. A large majority of these students come from small towns and rural areas located throughout Nebraska.

Sample

Twenty-two freshmen and twenty-two upperclassmen, enrolled in the College of Agriculture during the 1982-83 fall semester were selected as participants.

Upperclassmen. The upperclassmen were students who had taken a course in interpersonal communications and relationships offered through the College of Agriculture. It was assumed that by choosing students who had excelled in this course a group of upperclassmen with greater positive interpersonal relationship skills could be obtained as compared to selecting students at random from the student body.

Two criteria were established for selecting potential upperclass participants. First, they must have received an A in the course and secondly, they must have demonstrated excellence in the completion of a project which meets one of the requirements of the class. This project required the student to work on an individual basis throughout the semester with one or more people to apply interpersonal relationship and communication skills acquired in the class.

Thirty upperclassmen were selected and invited to attend a meeting at which the program was explained. Twenty-two of these students elected to participate in the project. This group consisted of sixteen males and six females. Each of the upperclass students was allowed two hours credit for their participation in the program.