

1984 STUDENT ENROLLMENT IN FACULTIES OF AGRICULTURE IN CANADA

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Abstract

The Association of Faculties of Agriculture in Canada has been publishing data on student enrollment and the number of graduates at the Bachelors, M.Sc. and Ph.D. levels on an annual basis since 1978. This paper provides comparative annual data for all degree levels in the faculties of agriculture in Canada from 1978 to 1984.

Over the six-year period enrollment at the Bachelors level declined almost 8%. During the period 1978 to 1981 there was a sharper decline of 11%. Enrollment in Diploma programs rose modestly to 1981 and then declined through to 1984 resulting in an overall decline of 5% during the period.

Enrollment of graduate students increased 31% during the six year period with most of the increase occurring during the period 1982 to 1984.

Enrollment in faculties of agriculture in Canada has been reported annually in the **NACTA Journal** commencing in March 1981 (1). Since that time the Association of Faculties of Agriculture in Canada (AFAC) has had a continuing program of data collection as reported in 1983 (2). This report covers the period from 1978 to 1984 inclusive and provides data collected in the format as reported previously with one exception. Several of the colleges include programs academically related to agriculture (e.g. forestry, landscape architecture) although the graduates do not enter the employment areas associated with agriculture. At the Ontario Agricultural College for example, there are programs in Landscape Architecture and in Engineering which produce graduates that enter those professions

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directly. In this report the data for Macdonald College and the Ontario Agricultural College is shown at the undergraduate level to be in agriculture only. Consequently when making comparisons with previous reports in the **NACTA Journal** on enrollment this difference should be kept in mind. The data have been recalculated for previous years so that the comparisons made in data presented in this report are on a similar basis.

Of primary concern to the Deans of Agriculture in Canada in recent years has been the relatively low numbers of Ph.D. graduates completing programs and being available for employment in agricultural research and in faculties of agriculture. There has been a significant increase in the number of students enrolled in graduate programs during the period. Concerns about the low number of Ph.D. graduates were initially expressed at the Vancouver Forum sponsored by the Agricultural Institute of Canada in July 1982 (3). These concerns are easing somewhat as graduate enrollment increases.

Undergraduate Enrollment

Enrollment in undergraduate degree programs in agriculture in Canada has been declining slowly but steadily since 1978. The decline was actually highest on an annual basis from 1980 to 1981 when enrollment reached its lowest level during the period under review. Since 1981 enrollment has increased modestly from 4,714 students to 4,895 students. Institutions showing the largest decline during the period are Laval University and the Ontario Agricultural College. Enrollment at the Nova Scotia Agricultural College has increased primarily due to the initiation of a third and fourth year curriculum which commenced in 1983. Enrollment has also increased at Macdonald College and at the University of Saskatchewan.

In September 1983 the Nova Scotia Agricultural College initiated its third year curriculum. This will

Table 1. Undergraduate Enrollment Canadian Faculties of Agriculture 1978-1984

	4-YR DEGREE							2-YR DIPLOMA						
	1978	1979	1980	1981	1982	1983	1984	1978	1979	1980	1981	1982	1983	1984
Nova Scotia Agricultural College	197	173	178	181	219	256	314	250	280	280	259	263	223	236
Laval University	968	990	905	803	738	745	775							
Macdonald College	493	539	527	532	535	542	578	96	100	90	103	80	77	76
Ontario Agricultural College	1534	1502	1527	1394	1344	1276	1171	336	351	394	416	416	390	376
University of Manitoba	688	592	596	560	615	616	585	265	259	245	245	240	286	263
University of Saskatchewan	488	501	509	511	545	566	590	282	242	240	264	275	275	220
University of Alberta	533	534	504	340	397*	471*	503*							
University of British Columbia	398	415	428	393	333	393	379							
Total	5299	5246	5174	4714	4726	4865	4895	1229	1232	1249	1287	1274	1251	1171

Date: circa October 1 each year * includes B.Sc. students in Food Science in 1982, 1983 and 1984; program not included in previous years.

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

Table 2. Number of Canadian Agricultural B.Sc. Level Graduates By Field of Study

	1977-78	78-79	79-80	80-81	81-82	82-83	83-84
Animal Science	275	300	273	275	282	283	234
Plant Science	282	274	259	279	232	279	269
Ag. Ec.	168	160	172	183	192	185	149
Food Science	139	109	118	113	99	92	82
Engineering	103	104	127	151	137	161	165
Other	178	241	281	310	255	265	237
Total	1145	1188	1230	1311	1197	1265	1136
% Female	26	31	32	34	35	37	37

result in a first degree graduating class in the spring of 1985. Previously students who had finished the first two years of the curriculum at N.S.A.C. transferred to Macdonald College or the Ontario Agricultural College to complete their degrees.

Less change has occurred in the enrollment of students in two year Diploma in Agriculture programs. Not all faculties of agriculture offer such programs; and there are other colleges, not associated with universities, which offer two year programs as well. Enrollment in these programs in agricultural faculties has declined since 1981 when it reached a peak of 1,287 students. A significant increase in enrollment occurred at the Ontario Agricultural College as a result of an increased quota on the number of students accepted annually. The increase became effective in 1980 and was followed by further increases in 1981 and 1982.

The AFAC data (4) provides a summary of the number of graduates in agriculture by discipline. From 1977-78 to 1980-81 the number of graduates increased following which there was a general decline to a level in 1983-84 similar to that of 1977-78. During this period there has been significant change in the percentage of female graduates, which increased from 26% in 1977-78 to 37% in 1982-83. There has been a decline in the number of graduates in Food Science and notable increases in the categories of Engineering and Others.

Graduate Enrollment

The enrollment of graduate students has increased significantly during the period under review from a total enrollment in 1977 of 1,298 to a peak of 1,703 in 1984. The number of Ph.D. students has increased by approximately 33%, and the number of M.Sc. students

by 25%. A study done under the auspices of AFAC (5) in 1981 projected a deficiency of Ph.D. graduates in agriculture in Canada. Since that report was published there has been a significant increase in enrollment which may be due, in part, to the critical nature of the situation identified in the report and to a slackening employment demand for Bachelors graduates from 1982 and 1984 and a corresponding increase in the number of these graduates entering M.Sc. programs.

The actual number of advanced degree graduates is indicated in table (4) which shows a steady increase in the number of M.Sc. graduates over the period. The number of Ph.D. graduates varies quite markedly on an annual basis, and the level of graduates in 1983-84 is actually the lowest during the period under review.

Table 4. M.Sc. and Ph.D. Graduates Canadian Faculties of Agriculture — 1979-80 to 1983-84.

	1979-80		1980-81		1981-82		1982-83		1983-84	
	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.
Laval U.	32	1	24	1	20	3	33	3	33	6
Macdonald C.	31	10	22	11	37	7	29	13	33	13
Ontario Ag. C.	87	14	92	19	104	11	88	21	106	12
U. of M.	40	13	40	13	51	11	33	13	49	2
U. of S.	18	7	18	10	24	9	24	9	22	6
U. of A.	25	6	31	7	23	15	33	8	31	8
U. of B.C.	16	7	24	7	19	8	19	8	20	8
Total	249	58	241	68	278	64	259	75	294	55
Total Graduates	307		309		342		334		349	
% Female	11		25		na		23		30	

Various estimates of annual demand for Ph.D. graduates have been made (3, 5) with 100 graduates annually being regarded as a conservative minimal estimate of the numbers required annually. The 1983-84 Ph.D. graduating class number 55, a level that must be increased over the next few years.

Summary

Canadian faculties of agriculture experienced a major increase in enrollment at the graduate level during the period 1978 to 1984. At the same time declines in undergraduate enrollment in both the Bachelors degree and two year diploma programs have been evident.

Throughout the period there has been an increase in the proportion of female students at all levels. The increase appears to be levelling off at the Bachelors level between 35% and 40% in most faculties.

Table 3. Graduate Enrollment in Canadian Faculties of Agriculture — September 1977-1984

	1977		1978		1979		1980		1981		1982		1983		1984	
	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.	M.Sc.	Ph.D.
Laval University	94	11	105	12	119	16	121	23	123	27	136	28	182	40	169	46
Macdonald College	141	64	124	70	95	81	119	62	126	63	145	69	172	72	175	67
Ontario Agricultural College	239	65	242	73	257	65	284	70	303	77	333	114	335	124	299	135
University of Manitoba	165	70	164	65	168	62	166	54	159	54	183	58	198	58	185	60
University of Saskatchewan	88	34	74	38	67	40	68	35	79	36	98	33	115	44	105	65
University of Alberta	143	51	136	42	131	48	118	46	113	49	112	55	119	62	154	66
University of British Columbia	92	41	101	45	112	57	112	57	105	52	104	48	124	49	128	49
Total	962	336	946	345	949	369	988	347	1008	358	1111	405	1245	449	1215	488
Total Graduate Students	1298		1291		1318		1335		1366		1516		1694		1703	

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.