1985 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 facilities of agriculture in Canada from 1978 to 1985.

Over the seven year period enrollment at the Bachelors level declined 10%. During the period 1978 to 1981 there was a sharper decline of 11%; some recovery has occurred in recent years. Enrollment in diploma programs rose modestly in 1981 and then declined through to 1985 resulting in an overall decline of 11% during the period, most of which has occurred in the past two years.

Enrollment of graduate students increased 36% during the seven year period with a major portion of the increase occuring since 1982.

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 1985 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 employment positions associated with agriculture. At the University of Guelph for example, there are programs in Landscape Architecture and in Engineering with graduates that enter those professions directly. In this report the data for Macdonald College and the University of Guelph are shown at the undergraduate level to be in agriculture only. Consequently when making comparisons with previous reports in the **NACTA Journal** this difference should be recognized. The data in this paper have been recalculated for previous years so that the comparisons are on a similar basis.

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 continues to increase. Enrollment at the M.Sc. and Ph.D. levels combined was 32% higher in 1985 than in 1980.

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 increased modestly from 4,714 students to 4,895 students in 1984. It then declined in 1985 to 4,775 students. Institutions showing the largest decline during the period are the University of Guelph and the University of Manitoba. Enrollment at the Nova Scotia Agricultural College increased primarily due to the initiation of a third and fourth year curriculum which commenced in 1983. Previously students who had finished the first two years of the curriculum at N.S.A.C. transferred to Macdonald College or the University of Guelph to complete their degrees. Enrollment also increased at Macdonald College and at the University of Saskatchewan.

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

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Table 1. Undergraduate Enrollment Canadian Faculties of Agriculture 1978-1985

	4-YEAR DEGREE								2-YR DIPLOMA							
	1978	1979	1980	1981	1982	1983	1984	1985	1978	1979	1980	1981	1982	1983	1984	1985
N.S.A.C	197	173	178	181	219	256	314	321	250	280	280	259	263	223	236	215
Laval University	968	990	905	803	738	745	775	881	no program							
Macdonald College	493	539	527	532	535	542	578	511	96	100	90	103	80	77	76	51
University of Guelph	1534	1502	1527	1394	1344	1276	1171	1111	336	351	394	416	416	390	376	368
University of Manitoba	688	592	596	560	615	616	585	529	265	259	245	245	240	286	263	248
University of Sask.	488	501	509	511	545	566	590	530	282	242	240	264	275	275	220	210
University of Alberta	533	534	504	340	397*	471*	503*	502*	no program							
University of B.C.	398	415	428	393	333	393	379	390	no program							
Total	**5299**	**5246**	**5174**	**4714**	**4726**	**4865**	**4895**	**4775**	**1229**	**1232**	**1249**	**1287**	**1274**	**1251**	**1171**	**1092**

Date: circa October 1 each year. * includes B.Sc. students in Food Science in 1982-85. 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	84-85
Animal Sc.	275	300	273	275	282	283	234	234
Plant Sc.	282	274	259	279	232	279	269	273
Ag. Ec.	168	160	172	183	192	185	149	166
Food Sc.	139	109	118	113	99	92	82	90
Engr.	103	104	127	151	137	161	165	131
Other	178	241	281	310	255	265	237	322
Total	**1145**	**1188**	**1230**	**1311**	**1197**	**1265**	**1136**	**1216**
% Female	26	31	32	34	35	37	37	37

there are other colleges, not associated with universities, which also offer two year programs. Enrollment in two year programs in agricultural faculties has declined since 1981 when it reached a peak of 1,287 students. Modest enrollment declines occurred in 1982 and 1983. Larger declines of 6% and 7% annually were experienced in 1984 and in 1985 respectively.

The AFAC data (4) provides a summary of the number of B.Sc. graduates in agriculture by discipline (Table 2). 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. There has been a decline in the number of graduates in Food Science and in Animal Science. There have been notable increases in the categories of Engineering and others. During this period there was a significant increase in the percentage of female graduates from 26% to 37%.

Graduate Enrollment

The enrollment of graduate students increased significantly during the period under review from 1,298 in 1977 to a peak of 1,768 in 1985. The number of Ph.D. students increased by 50% and the number of M.Sc. students by 31%. 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. At the same time there was a weak demand for Bachelors graduates and a corresponding increase in the number entering M.Sc. programs.

The actual number of advanced degree graduates is indicated in Table 4 and shows a steady increase in the number of M.Sc. graduates of 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. Various estimates of the demand for Ph.D. graduates have been made (3, 5) with 100 graduates annually being regarded as a conservative minimal estimate. The 1983-84 Ph.D. graduating class numbered 55. Fortunately the number of graduates increased to 74 in 1984-85, and, with a continuing increase in the total enrollment of Ph.D. students, it is probable that the 1985-86 level will be sustained or increased.

Table 4. M.Sc. and Ph.D. Graduates Canadian Faculties

	1982-83		1983-84		1984-85	
	M.Sc.	Ph.D.	M.Sc.	Ph.D.	M.Sc.	Ph.D.
Laval University	33	3	33	6	26	2
Macdonald College	29	13	33	13	25	9
University of Guelph	88	21	106	12	115	22
University of Manitoba	33	13	49	2	46	10
University of Sask.	24	9	22	6	31	9
University of Alberta	33	8	31	8	53	15
University of B.C.	19	8	20	8	26	7
Total	**259**	**75**	**294**	**55**	**322**	**74**
Total Graduates	334		349		396	
% Female	23		30		31	

Summary

Canadian faculties of agriculture experienced a major increase in enrollment at the graduate level during the period 1978 to 1985. 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 has levelled off at the Bachelors level between 35% and 40% in most faculties.

References

1. Jenkinson, G.M. March 1981. Canadian Enrollment-Agriculture and Veterinary Medicine - 1980. *NACTA Journal* 25:1.

2. Jenkinson, G.M. March 1983. 1982 Student Enrollment in Faculties of Agriculture in Canada. *NACTA Journal* 27:1.

3. Procedings of the Vancouver Forum, July 1982. Published by Agricultural Institute of Canada, Ottawa, Canada.

4. Jenkinson, G.M. March 1985. 1984 Student Enrollment in Faculties of Agriculture in Canada. *NACTA Journal* 29:1.

5. 1981. Association of Faculties of Agriculture, Canada Report on Graduate Enrollment prepared by B.D. Kay.

Table 3. Graduate Enrollment in Canadian Faculties of Agriculture — September 1977-1985

	1977		1978		1979		1980		1981		1982		1983		1984		1985	
	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.	M.Sc.	Ph.D.
Laval U.	94	11	105	12	119	16	121	23	123	27	136	28	182	40	169	46	196	65
Macdonald C.	141	64	124	70	95	81	119	62	126	63	145	69	172	72	175	67	181	64
U. of Guelph	239	65	242	73	257	65	284	70	303	77	333	114	335	124	299	135	303	128
U. of Manitoba	165	70	164	65	168	62	166	54	159	54	183	58	198	58	185	60	170	64
U. of Sask.	88	34	74	38	67	40	68	35	79	36	98	33	115	44	105	65	117	69
U. of Alberta	143	51	136	42	131	48	118	46	113	49	112	55	119	62	154	66	173	68
U. of B.C.	92	41	101	45	112	57	112	57	105	52	104	48	124	49	128	49	124	46
Total	**962**	**336**	**946**	**345**	**949**	**369**	**988**	**347**	**1008**	**358**	**1111**	**405**	**1245**	**449**	**1215**	**488**	**1264**	**504**
Total Graduate Students	1298		1291		1318		1335		1366		1516		1694		1703		1768	

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 combined.