

graduates to have formed close relationships with several faculty in a small department. Since most faculty at the regional schools also serve as advisor or sponsor of at least one student organization, a bond between students and faculty often develops that simply is not possible when contact is made via the classroom only. The gratification from watching and playing a part in the scholarly and cultural development of a young adult cannot be matched.

One of the greatest advantages offered to those teaching at the smaller universities is that of smaller class size; thus providing the potential for more individual student attention. Assuredly, there are many students at those institutions for that reason alone. An entering freshman at a large university may feel insignificant in classes of 100 or 200 students and perhaps even larger. However, it is conceded that entry level courses generally contain more students than the upper level courses, no matter the size of the university. Unfortunately, it is difficult to provide extra

assistance to a student that doesn't come forward and request it. Smaller class sizes do however make it easier to approach individual students regarding academic or other problems and to provide assistance when requested.

Conclusion

Admittedly, the authors have not been exposed to all possible situations, thus lack the ability to describe all possible advantages and disadvantages of appointment at non-land grant institutions. For example, Texas Tech University and Southern Illinois University are non-land grant universities, yet each obtains considerable funding for agricultural research and has student populations larger than some land-grants. Our experiences do not include such institutions.

Perhaps this discussion will draw attention to the issues of appointment at regional universities with agricultural programs. Innovative teaching, research, and service will be better achieved through an understanding of the institutions involved.

Changes in Student Enrollment In Faculties of Agriculture in Canada

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Enrollment data has been collected on a regular basis since 1978 at the undergraduate level and since 1980 at the graduate level for the faculties of agriculture in Canada. A complete statistical picture is provided in the accompanying tables which illustrate both total enrollment and the number of graduates on an annual basis. Previous enrollment reports in the NACTA Journal presented annual data during the period 1979 through 1987. This report summarizes the data for the past decade and provides annual data for the three most recent years.

An overview summary of enrollment data and the number of graduates from faculties of agriculture in Canada is provided in Tables 1 and 2. Undergraduate enrollment declined substantially during the ten year period under review and is now 29% lower than it was in 1980. A similar but less pronounced trend was observed regarding the number of graduates at the bachelors level which declined 14% during the same period. Graduate student enrollment and the number of graduates at the MSc and PhD level increased substantially and have, in large measure, offset the enrollment decline at the undergraduate level. This is particularly true with the total number of graduates (Table 2) which was actually higher in 1989 than it was in 1980 when graduates from all programs (graduate and undergraduate) are considered.

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Table 1. Enrollment Summary Faculties of Agriculture in Canada, 1980-1989.

	NUMBER OF FULL TIME STUDENTS							
	1980	1984	1985	1986	1987	1988	1989	Change
Undergraduate	5768	4895	4775	4766	4374	4221	4090	-29%
M.Sc.	980	1182	1288	1272	1315	1329	1341	+37%
Ph.D.	350	488	504	535	572	642	629	+80%
	7098	6565	6567	6573	6261	6192	6060	-15%

Table 2. Number of Graduates From Faculties of Agriculture in Canada, 1980-1989.

	NUMBER OF FULL TIME STUDENTS							
	1980	1984	1985	1986	1987	1988	1989	Change
Undergraduate	1230	1076	1156	1136	1055	1078	1052	-14%
M.Sc.	249	285	310	362	403	359	380	+53%
Ph.D.	58	55	74	125	124	109	122	+110%
	1537	1416	1540	1623	1582	1546	1554	+1%

Table 3. Undergraduate Enrollment in Faculties of Agriculture in Canada, 1978-1989.

University	NUMBER OF FULL TIME STUDENTS					
	1978	1981	1984	1987	1988	1989
U.B.C.	398	393	379	345	328	325
Alberta	533	340	503	500	469	453
Saskatchewan	488	511	590	549	555	559
Manitoba	688	560	585	506	475	447
Guelph (Agr)	1534	1394	1171	880	828	790
Macdonald (Agr)	493	532	578	400	417	390
Laval	968	803	775	888	853	788
N.S.A.C.	197	181	314	306	296	288
Total	5299	4714	4895	4374	4221	4090
% Female	25%	36%	40%	40%	41%	44%

Notes: Enrollment declined 23% from 1978 to 1989 in Canada. The major decline is at Guelph where there were 49% fewer students in 1989 as compared to 1978. The increase at N.S.A.C. in 1984 reflects the development of the third and fourth year curriculum.

Table 4. Number of Graduates - B.Sc. Level Faculties of Agriculture in Canada, 1978-1987.

University	1978	1984	1986	1988	1989
U.B.C.	90	74	80	91	79
Alberta	122	64	114	109	110
Saskatchewan	94	104	129	111	125
Manitoba	121	124	101	108	105
Guelph	341	383	300	242	231
Macdonald	157	183	205	176	144
Laval	169	139	154	185	195
N.S.A.C.	0	5*	53	56	63
Total	1094	1076	1136	1078	1052
% Female	26%	38%	39%	39%	38%

* first year of graduation

Table 5. Graduates By Area of Specialization Faculties of Agriculture in Canada, 1978-1989.

	1978	1982	1987	1988	1989
Animal Science	275	282	195	173	190
Plant Science	251	203	184	298	193
Agr. Economics	168	192	159	180	165
Food Science	139	99	106	117	125
Engineering	83	118	88	121	90
Other	178	255	323	189	289
Total	1094	1149	1055	1078	1052

Clearly, there has been a change in the balance between graduate and undergraduate enrollment and a shift therefore in the teaching activity and research emphasis of faculty members during the 1980's. In 1980, graduates from MSc and PhD programs represented 20% of the total number of graduates at all levels. This proportion increased steadily during the 1980's and by 1989 had risen to 32%.

Undergraduate enrollment is recorded for each institution during the period 1978 to 1989 in Table 3. Six of the eight faculties have experienced declines, the exception being the Nova Scotia Agricultural College which introduced a third and fourth year curriculum in 1984 and the University of Saskatchewan. The decline has been most noticeable at the Ontario Agricultural College (49%) and at the University of Manitoba (35%).

The participation of women as undergraduate students rose from 25% in 1978 to 44% in 1989. The increase in the rate of participation of women in undergraduate programs in agricultural science partially masks the severe decline that has occurred in the traditional all male population that faculties experienced until the 1970's. The actual population of male undergraduate students in 1978 was 3974; enrollment of male students declined to 2290 by 1989, a decrease of over 40% in eleven years.

Table 4 provides data on the number of graduates at the baccalaureate level for each of the institutions. As might be expected, the University of Guelph experienced the largest decline (32%) while there have been increases as NSAC, Saskatchewan and Laval. The increase in the proportion of female graduates corresponds to the increase observed in female enrollment.

The graduate from baccalaureate programs are identified by area of specialization in Table 5. While there is a reasonably high level of annual variability in some areas, there has been a relatively constant number of students in Agricultural Economics, Food Science and Engineering. Plant Science has fluctuated widely and Animal Science experienced an above average decline from 1978-1989 of more than 30%.

Concern about enrollment at the undergraduate level continues to be expressed by all faculties, particularly those that have had the largest declines in undergraduate enrollment. It is also clear that graduate enrollment has increased substantially and that there has been a major change in the nature of teaching at the faculties of agriculture in Canada during the past ten years. There is some question as to the ability of the faculties to sustain graduate enrollment at current levels given the continuing declines in undergraduate student numbers. Some institutions are beginning to take specific liaison and marketing initiatives that target graduate enrollment as the objective.

The changing balance between graduate and undergraduate students is, fortunately, occurring at a time of above average faculty replacement. The increasing enrollment of graduate students is coincident with a revitalization of research programs, particularly in genetics, biotechnology, marketing and food science/technology. The other major shift is in the proportion of female students which continued to increase in the 1980's although at a lower rate than during the 1970's.

This data collection process is now conducted on an annual basis by the Confederation of Faculties of Agriculture in Canada with the cooperation of Statistics Canada. It is anticipated that this process will continue in future years and I anticipate being able to provide annual enrollment reports for the NACTA Journal on an annual basis.

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