

5. Greager, J. G. and D. L. Murray. 1971. The use of modules in college biology teaching. Publ. No. 31. Commission on Undergraduate Education in the Biological Sciences, American Institute of Biological Sciences, Washington, D. C.
6. Dean, D.D. 1970. Preservice preparation of college biology teachers. Publ. No. 24. Commission on Undergraduate Education in Biological Sciences, American Institute for Biological Sciences Washington, D.C.
7. Department of the Army. 1967. *Techniques of military instruction*. Field Manual 21-6, U.S. Govt. Printing Office, Washington, D.C.
8. Eble, K. E. 1971. *The recognition and evaluation of teaching*. Amer. Association of University Professors, Washington, D.C.
9. Gates, M. and C. W. Burnett. 1969. Students' perceptions of professors. *Improving College and University Teaching*, 27:234-236.
10. Gustad, J. W. 1967. Evaluation of teaching performance: Issues and possibilities. pp. 265-281. In: *Improving College Teaching*. C.B.T. Lee, ed. Amer. Council on Educ.
11. Hammond, P. E., J. W. Meyer, and D. Miller. 1969. Teaching versus research: Sources of misperceptions. *J. Higher Educ.* 40:682-690.
12. Hardner, R. J. and D. L. Pratton. 1970. Curriculum reform through behavioral objectives. Report of an in-service project. Columbia Basin College.
13. Hayes, J. R. 1971. Research, teaching and faculty fate. *Science* 172:227-230.
14. Heiss, Ann M. 1967. Berkeley doctoral students appraise their academic programs. *The Educ. Record* 48:30-44.
15. Henle, R. J. 1967. The Soundness of the American Ph. D. Program. pp. 72-76. In: *Improving College Teaching*. C.B.T. Lee, ed. Amer. Council on Educ.
16. Hildebrand, M., R. C. Wilson, and E. R. Dienst. 1971. Evaluating university teaching. Center for Research and Development in Higher Education, University of California, Berkeley.
17. Jencks, C. and D. Biesman. 1968. Where graduate schools fail. *The Atlantic*, 221:49-55.
18. Kestin, J. 1970. Creativity in teaching and learning. *Amer. Scientist*, 58:250-256.
19. Mager, R. F. 1962. *Preparing instructional objectives*. Lear Siegler, Inc./Fearson Publ. Belmont, California.
20. McKeachie, W. J. 1969. *Teaching tips, a guidebook for the beginning college teacher*. D. C. Heath and Co., Lexington, Mass.
21. McKeefery, W. J. 1958. Some observations on effective teaching. *North Central Assoc. Quart.* 32:325-332.
22. Morris, F. C. 1950. *Effective teaching: A manual for engineering instructors*. McGraw-Hill, N. Y.
23. Nisbet, R. A. 1967. Conflicting academic loyalties. pp. 30-31. In: *Improving College Teaching*. C.B.T. Lee, ed. Amer. Council on Educ.
24. Popham, J. W. 1974. Higher education's commitment to the instruction development programs. Presentation to an International Conference on Improving University Teaching, Amherst, Mass.
25. Pullias, E. V. 1963. Factors influencing excellence in college and university teaching. *Educ. Record*, 44:243-247.
26. Rowland, R. 1970. Can teaching be measured objectively? *Improv. College and Univ. Teaching* 18:153-157.
27. Swanson, H. B. 1975. Do you really qualify as a professional college teacher? *NACTA Jour.* 19:1, 31-33.
28. Thornton, J. W. 1972. The laboratory: A place to investigate. Publ. No. 33. Commission on Undergraduate Education in the Biological Sciences, Amer. Institute of Biological Sciences, Washington, D. C.
29. Tyler, R. W. 1959. The evaluation of teaching. In: *Preparing College Teachers*. A. D. Albright and J. E. Barrows, eds., Southern Regional Education Board, Atlanta, Ga.
30. Wilson, L. 1942. *The Academic Man*. Oxford Univ. Press, N.Y.



# INTERNATIONAL AGRICULTURE

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## An International Agriculture Study Program in New Zealand

Wilbur P. Ball  
ABSTRACT

*International programs, such as the California State University program for agricultural students to study for ten months at Massey University and Lincoln College in New Zealand, help to internationalize instructional programs on our campuses in America. Students not only have a rewarding experience studying agriculture in another land but also have an opportunity to gain valuable cross-cultural and travel experiences that provide a better understanding of international agriculture in a changing world.*

Students majoring in agriculture at California State universities and colleges now have an opportunity to study agriculture in New Zealand as part of their regular Bachelor of Science degree programs. This new program is offered through the Universities' International Studies Program in cooperation with Massey University and Lincoln College in New Zealand.

The first group of ten agricultural students enrolled at California State University campuses at San Luis Obispo, Fresno, Pomona, and Humboldt recently completed study in New Zealand under this program. The students arrived in New Zealand in early February for the beginning of the academic year and returned to California during October of 1975. Each student was assigned to a New Zealand farm for one month prior to the beginning of classes to familiarize himself with new agricultural terms and techniques in addition to gaining valuable work experience.

### Host Institutions and Academic Programs

Massey University enrolls approximately 4,000 students and is located in North Island near the city of Palmerston North. The university has outstanding programs in animal science, pasture management, soil management, and food management. The animal science program is especially strong in sheep and dairy husbandry.

Wilbur P. Ball is professor of international agriculture and education at California State University at Fresno. He also serves as a consultant for international organizations with programs in Africa, Latin America, and Asia.

Lincoln College is located on the east coast of South Island near the city of Christchurch, which has a population of nearly 250,000. Lincoln College, which has a smaller enrollment, emphasizes a practical educational program in all agricultural subjects, particularly in the sheep husbandry area of the animal science program.

The academic programs for each California State University student are developed at the Massey and Lincoln campuses according to his or her particular major and interest. Students generally enroll in the same courses taken by New Zealand students during their junior and senior years.

### Student Selection Requirements

To be accepted in the program, students must have completed at least 58 semester or 87 quarter units prior to their departure to New Zealand and have at least a 2.5 (4.0 = A) overall grade point average. They should have completed coursework in chemistry, biology, zoology, and physics. Students who lack one or more of the science requirements are advised to complete the required course or courses at the home campus during the fall term prior to their departure for New Zealand.

### New Zealand Program Description

While overseas, California agricultural students enroll in all three New Zealand trimesters. They complete the New Zealand academic year in October or early November. This allows for a vacation period prior to resuming coursework at the home campus in California for the winter quarter or the spring semester of the senior year.

All students must carry a full academic load of 16 hours a week during an academic year of 26 weeks. This workload equates to about 30 semester or 45 quarter units at their home campus for the academic year. Since each participant is fully matriculated at his or her home campus, credit earned in New Zealand is accepted for resident credit in California.

### Cost for Academic Year Abroad

Undergraduate students who plan to take advantage of this unique opportunity to pursue their agricultural education in New Zealand while enrolled at their home campus in California must consider the financial expenses involved in this program. Below is an itemized list of the estimated cost for the 10-month academic year in New Zealand as of January, 1975:

Basic Program Cost (home campus fees, insurance, orientation, etc.)	\$425.00
Round Trip Transportation (Los Angeles-New Zealand)	1350.00
Room and Board (university dormitories)	800.00
Field Trips	50.00
New Zealand Student Association Fee	30.00
Personal Expenses	500.00
Vacation	300.00
<b>Total Estimated Cost</b>	<b>\$3455.00</b>

This program is being expanded from 10 to 30 California agricultural students enrolled at Massey University and Lincoln College for the 1976 academic year. A California State University staff member will be appointed resident advisor for the California students.

This promising new program, organized specifically for California State University undergraduate agricultural students, offers not only an opportunity to study agricultural sciences in New Zealand but also an opportunity for rewarding cross-cultural and travel experiences. It is one way to help internationalize educational programs on our American campuses for students who are interested in gaining experience and understanding of international agriculture.



## BOOK REVIEWS

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William C. Merrill, Lehman B. Fletcher, Randall A. Hoffman, and Michael J. Applegate. **Panama's Economic Development: The Role of Agriculture.** The Iowa State University Press, Ames, Iowa, 1975. 219 pp., paper-bound.

The authors have done an excellent job of presenting a case study of the role of agriculture in the economic development of Panama. The data and analyses provide insights into many aspects of agriculture. There is a section on the current status of Panama's economy and projections for future development.

The statistical models of the total economy are very thorough and should provide excellent illustrations for economists who are quantitatively oriented. There are excellent descriptive analyses of the food marketing sector for those who are not so quantitatively oriented.

The authors not only analyzed the current status of public programs but also proposed alternatives for solving some of the current problems.

I would recommend this book to anyone teaching courses in economic development in general, economic development in agriculture, international agriculture, or any course related to the economic or agricultural aspects of Panama.

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