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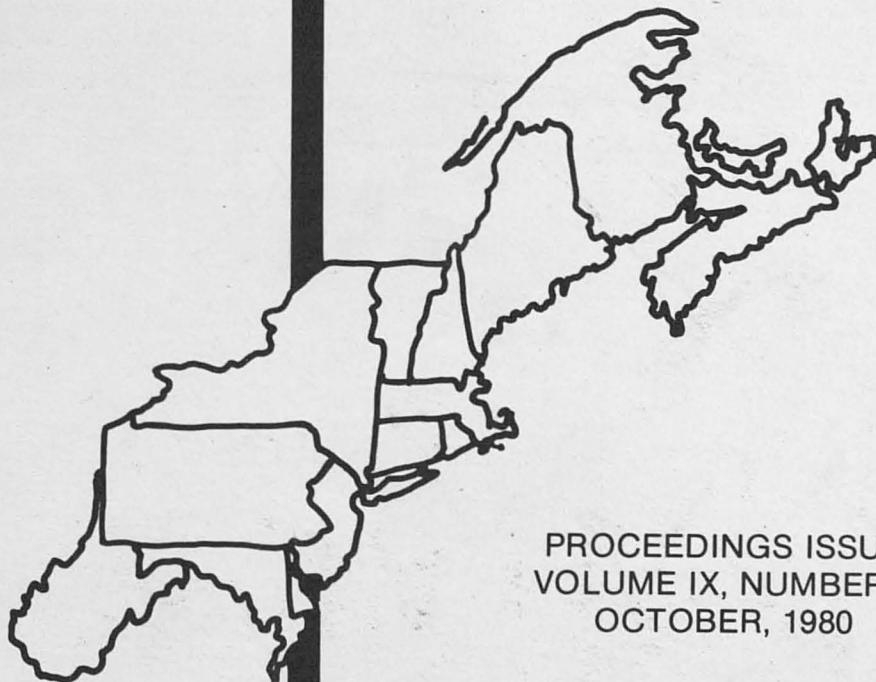
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# NEW DIRECTIONS IN NORTHEAST TEACHING

John P. H. Brand

It has been ten years since I last spoke to this group; long enough for you to have forgotten what I said at that time. As an expatriate from the profession I am delighted to have this opportunity to meet with you again. I am especially pleased that you have chosen to meet here and on behalf of Dean E. J. Kersting I extend a very sincere welcome and best wishes for a successful program.

On January 27-28, 1980 a Conference on Priorities for Agricultural Research, Extension, and Higher Education was held to provide an opportunity for representatives of professional organizations related to food and agriculture to provide guidance to the Science and Education Administration (SEA) of the U.S. Department of Agriculture on selection of priorities for Federal funding of research, extension, and higher education in the food and agricultural sciences. The Conference was planned after a nearly unanimous response from 41 professional societies and organizations involved in food and agriculture indicated that such a conference would be desirable. Dr. Richard A. King represented the AAEA at the Conference.

The conferees reviewed the more than 400 recommendations for priorities in research, extension, and higher education which their own and other organizations had sent in prior to the Conference. In work groups and discussions, they developed the following general areas for emphasis:

1. Research on production, management, marketing and processing systems to optimize productivity.
2. Research on plant and animal production, processing, and marketing to enhance food quality, safety, and nutrition.
3. Research on energy conservation and alternatives.
4. Human nutrition research.
5. Support for extension education.
6. Support for higher education.
7. Research on conservation of natural resources, improving the environment, and forestry.
8. Human resources research.
9. Research on the structure of the agricultural industry.
10. General research concerns.

The group made the following recommendations regarding support for higher education:

- A. Develop innovative or new realigned programs or curricula to meet needs of a rapidly changing student clientele—particularly those from non-farm backgrounds whose perceptions, vocabularies, goals, etc. are often at variance with traditional land-grant institution prototype. These could involve coop internships, field studies, practicums, and other experiential learning processes with agricultural business.
- B. Provide graduate student stipends which directly complement and support professional research projects in crop protection and production.
- C. Provide pre- and post-doctoral fellowships in all aspects of crop production and protection.
- D. Provide for the training of personnel, support of graduate education and training grants and fellowships in agriculture and home economics including teaching labs, etc.

- E. Support faculty development, in-service education.
- F. Provide equipment and facilities for practicums, teaching labs, etc.
- G. Provide emphasis on teaching programs in:
  1. Agriculture food and fiber technology
  2. Farm business management and home economics
  3. Family economics
  4. Human nutrition
  5. Family strengths and human development
- H. Produce qualified expertise in the food and agricultural sciences to meet emerging needs of the American labor force and to enhance the agricultural system—undergraduate and graduate education in agriculture, veterinary medicine, forestry, and home economics.
  - I. In undergraduate education, critical need is funding for a subject matter update to reflect the current state-of-the-art based on research and practical application.
  - J. Preserve the unique relation among higher education, extension, and research.

The remainder of my comments relate to one or more of the recommendations made by the conference participants.

In 1979 undergraduate enrollment in U.S. colleges of agriculture declined approximately 1 percent to a total of 89,225 students according to a NASULGC report. During the same year Northeast states' undergraduate enrollment dropped 6.1 percent to 20,235 students.

Nationally, graduate enrollment increased approximately 1 percent during 1979 to 20,541 while Northeast enrollment declined 15.2 percent to a total of 3,258.

In the same year U.S. enrollment in two-year schools of agriculture increased dramatically by 35 percent to 3,553. Northeastern states experienced a 7.6 percent increase for a total of 1,643.

Nationally, women increased in undergraduate and graduate programs by 18 percent. They now represent 29 percent of all agricultural students.

Minorities increased dramatically by 62 percent in 1979 but still represented only 3.4 percent of U.S. agricultural students.

Women represent a larger proportion of Northeastern states' student enrollments and have for some time. Although RICOP figures are not available I believe the proportion is close to 50 percent. I expect a slow increase in this level during the eighties but I also anticipate an increase in our representation of minorities. This increase will result in large measure from years of exposure to extension's work with youth, community development and nutrition in urban areas. There is an increasing awareness on the part of minorities that agriculture is far more encompassing than production agriculture.

The decreases in undergraduate numbers are primarily in the general agriculture and natural resource fields; majors that experienced dramatic increases in the seventies. In 1979 natural resource majors in the Northeast dropped from 5,949 to 4,865, a drop of 18.2 percent. Graduate students in this field declined 42 percent going from 503 to 292. General agriculture undergraduates decreased from 3,293 to 1,792, a 45.6 percent decrease and graduate numbers went from 287 to 150, a 47.7 percent drop.

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Social Science majors in the Northeast, primarily agricultural economics, in the same year increased 15 percent at the undergraduate level, going from 2,088 to 2,401 while graduate numbers declined 3 percent from 755 to 732.

Declining birth rates of the sixties will continue to have an impact on higher education enrollments during the next decade. Our primary and secondary schools are already affected. New England will be more severely hit since it has had a relatively slow growth rate compared to other regions. A New England Deans' report indicates that Southern New England will have significant decreases in the number of high school graduates in the next fifteen years when Connecticut will decrease 41 percent; Rhode Island 45 percent; and Massachusetts 42 percent. The Northern tier states will also be hit with decreases—Maine 42 percent; Vermont 24 percent; and New Hampshire 11 percent. Other Northeast states will fare little better for New York is predicted to decline 42 percent; New Jersey 37 percent; and Pennsylvania 37 percent.

The ultimate impact of the reductions is difficult to assess. The reductions may impact differently on different institutions and programs within institutions. The declines are also based upon the traditional college age population, ages 18-21. An improved economy could result in increases of older students who had earlier declined to pursue post high school education due to monetary constraints. A continuance of the trend for an increasing number of older people to change careers at mid-life could also result in increases in numbers. An active recruitment among lower income families, a population that still has relatively few children attending college, could also change the forecast.

Tuition and fees, the availability and form of financial aid, the time and place of instruction, and the degree of support and cooperation from agricultural industry firms are all factors that will affect the enrollment in each of our institutions. I believe there is a ready market for evening courses in our large cities that has never been tapped. Our ability to offer quality, attractive offerings and our ability to meet changing needs will determine our success in minimizing enrollment declines. By the end of the decade we will be anticipating an enrollment increase representing the grandchildren of the World War II postwar baby boom.

In any case we should not lose sight of the fact that there are far more college level educable people than are presently attending college. In most of our institutions the growth of the seventies developed without concomitant increases in instructional resources. The foreseeable declines will have the positive effect of improved quality of instruction and counseling. Also most of our universities, I believe, have minimum admission standards that would permit a much greater percentage of admissions than realized in the past decade. In view of the qualms many have regarding the validity of SAT scores, a relaxation of admission controls might serve the best interest of students, institutions, and society.

If we are to address the range of research problems and extension issues facing us we must give increased emphasis to our graduate programs and recruitment efforts in order to ensure a supply of the highly trained people needed. The success of our research and extension activities is directly related to the quality of our instructional programs.

We will need to obtain increased funds to provide additional, meaningful assistantships. In too many of our institutions we are providing embarrassingly low, poverty-level assistantships.

Unfortunately, mounting costs are eroding our ability to provide the support that makes the difference between a good and an excellent instructional program. It is increasingly difficult to meet even the basic needs of our extant programs, let alone support the new initiatives necessary for the eighties.

Increased appropriations, federal and state, are needed but it is unlikely that funding will keep pace with our needs in the next decade. Inflation and increasing energy costs will not be covered by additional appropriations or revenues. We will be forced to make difficult decisions regarding the reallocation of resources from existing programs. It is paradoxical that this period of reduced government expenditures comes at a time when the need for increased support is greater than ever. Most agricultural colleges in the Northeast have experienced reduced financial support for some time due to administrative and legislative perceptions that traditional agriculture represents a small and declining segment of the economy. A major educational effort to inform the public, legislature, and educational administrators of our mission and contributions is needed.

The focus of any long range plan of resource allocation will be faculty positions within the various programs. But how will administrators decide which positions have priority? I believe the time has come when University administrators, deans, research, extension and resident instruction directors, and department heads must join with their counterparts from nearby states to jointly review position vacancies and program strengths in order to reach agreements on replacement policies and cooperative efforts designed to maximize available resources. Must every state in New England, especially in the southern tier, duplicate the efforts of each other in course offerings? Couldn't the strength of programs be enhanced through videotaped lectures? The hardware costs have declined to the point where this is a possibility. Couldn't two or more states agree that Dr. X would prepare a videotaped cassette course on the economics of outdoor recreation while Dr. Y would prepare one on cooperatives with both institutions benefitting? There is no reason why students could not continue to receive personal attention through discussion sessions, on-campus testing, local field trips, etc. The time of one faculty member at each institution could be directed to other efforts while the mix of course offerings at each institution would be enhanced.

I am not optimistic about faculty exchanges or student exchanges except for summer sessions. Could we not consider a rotating summer school that would provide our students an extensive array of innovative agricultural economics course offerings? We have had a measure of success in regional research and the sharing of extension specialists. Can't we make some initial inroads in instructional cooperation in the eighties? Of all the disciplines in our colleges I believe agricultural economics to have the greatest potential for success.

The relationships between agriculture and the rest of the economy are becoming increasingly complex as reflected in the range of problems and issues facing colleges of agriculture. This integration and interdependence has had a profound effect on the role of agricultural policy and even on the nature of that policy development. I believe policy courses will take on a renewed importance in our curricula during the eighties.

Congress recognized the importance of the universities in international agricultural development under Title XII of the Foreign Assistance Act of 1961 which provided a mandate for universities to become more involved in international food and agricultural development. But only with additional aid can domestic and international programs be conducted simultaneously.

We must provide an international component to our curricula if we have not done so already. Further support is also needed to provide improved training for our foreign students and in training domestic students to work in international food and agricultural professional fields. Everyone should have a knowledge of international food and agriculture relationships. We will need, in

many instances, to change our course content to incorporate this perspective.

Our universities are guilty of making minimal effort to improve our understanding of other peoples. The evidence is clear that people in other lands understand us far better than we do them. They have studied our history, politics, culture, and language while we cling to our insular heritage expecting naively to be met on our own terms by other peoples. We need to recognize the necessity of studying other people.

Butwell has reported that a smaller percentage of students study a foreign language today in high school or college than did at the turn of the century. The Comptroller General has reported that 17.8 percent of postsecondary students studied a foreign language in 1968 while only 9.9 percent did in 1974. We should give serious consideration to incorporating foreign language courses into our curricula either as strongly recommended electives or as graduation requirements.

We also need to increase the international agricultural experience of our faculty. Faculty exchanges, sabbaticals, cooperative research, and on-campus Title XII activities are worthy of consideration.

In December 1976 the Industry Advisory Committee of the AAEA in an open letter to the members called attention to the fact that:

In the experience of industry employers, today's graduate in agricultural economics is well trained in research techniques, but often lacks training needed to relate and communicate the results in the decision-making process. Also today's student often does not understand the food industry as it operates today. As a result, many industry agricultural economists are turning to other sources, such as business schools, for recruiting individuals to work in agribusiness.

This is not a small problem. There is a lot of frustration among industry agricultural economists as they search for new, qualified industry colleagues. There is a gap between industry needs and graduate training.

For some years now industry representatives have discussed training and research needs in sessions at our annual meetings. It is the opinion of many in industry that most of this discussion received no attention once the meetings were over.

The Committee concluded by urging the profession to review its training programs.

Recently Fred H. Wiegmann, Louisiana State University, and Leon A. Mayer, University of Illinois, have written articles reflecting upon deficiencies in our curricula.

Wiegmann states:

Now, it seems the profession [Agricultural Economics] may have become so diverse and sophisticated that even *limited* course work in *basic agricultural sciences* is no longer considered a prerequisite in too many graduate programs dealing directly or indirectly with agriculture.

In recent years increasing numbers of 'Agricultural Economists' apply for faculty positions for which they are poorly qualified if the word 'agricultural' has any meaning. Resumes show no agricultural background. Transcripts (B.S., M.S., and Ph.D.) include no *basic* remedial agricultural course work (soils, animal science, ag mechanization, etc.). Presumably, similar applications are made outside the academic area—in agribusiness, government, industry, etc. The implications are serious.

Farm management, *farm* production economics, farm credit, ag marketing, and land economics are examples of subareas where a deficiency in basic agriculture is a serious handicap. . . .

Lack of some reasonable degree of basic agricultural knowledge can cost the creditability of our departments, experiment stations, and our profession. . . .

Ignoring the deficiency may be the result of misplaced priorities and expediency in competition for graduate

students. The students, and ultimately our profession, will pay the price. . . .

The discussion called for by the Industry Advisory Committee and Dr. Wiegmann in his conclusion is one that must be responded to by us all during the eighties.

Dr. Mayer addressed the problem of how institutions can develop a capability to provide practical training for agriculture students. He believes the training is needed because the "capability to solve problems is contingent not only upon technical expertise, but also upon the ability of the professional agriculturalists to understand practical problems and to conceptualize possible solutions to these problems."

I believe the internship will play an increasingly vital role in our instructional programs during the eighties.

I believe we must increasingly emphasize problem solving and thinking in our instruction using actual problems involving farm firm, agricultural marketing institutions, credit agencies, pricing behavior, policy issues, etc. as laboratories for practicing economic problem solving and reasoning. In each situation the student should see the centrality of the economic issue and how the problem was handled and solved in a particular setting as well as how it interrelates with the total economic structure. A full-fledged case study approach might represent the ideal for it would facilitate the incorporation of the widest range of variables and facilitate incorporation of elements of psychology, sociology, history, political science, and philosophy. Such an approach also has the spin-off benefit of providing a more detailed understanding of the operation and issues of the total agriculture and food sector of the economy.

If a student can't apply principles and theory in the extremely favorable classroom environment, how can we expect him to perform satisfactorily in real life?

Regardless of approach I hope that our graduates in the next decade will be multidisciplinary in scope, agnostic in their approach to problems, and understanding of the full spectrum of implications of their actions.

The success or materialization of many of the things I have predicted is dependent upon strong integrated teaching, research and extension programs in land grant colleges of agriculture operating in partnership with the U.S.D.A. Unfortunately the nature and character of this unique organizational structure and partnership covenant is in a state of change that may have great implications not only to teaching programs in the eighties but research and extension as well.

Title XIV of the Food and Agriculture Act of 1977 established an Office of Higher Education in U.S.D.A.'s SEA. Its program was to carry out the Department's leadership role in higher education for food and agriculture. The act provided for greater support for graduate and post-doctoral research and training grants, undergraduate program grants, and for pre-doctoral and post-doctoral fellowships. It also transferred the Bankhead-Jones funds from H.E.W. to U.S.D.A. The various grants and fellowships have not been funded and the FY 1980 budget recommendation eliminated the Bankhead-Jones funds. As recently as May 12, John Victor, Budget Director for U.S.D.A., SEA, before the Senate Agriculture Appropriations Sub-Committee recommended the elimination of the \$11.5 million Bankhead-Jones funds because they "are not considered significant in the overall support of universities."<sup>1</sup> If these funds are not restored 23 positions in this College will be affected.

<sup>1</sup>The *Greensheet*, Circular Letter No. 8, National Association of State Universities and Land Grant Colleges, May 31, 1980, p. 15.

U.S.D.A. appears to be competing for available funds for its own in-house operations. Joint research efforts are being restricted to those projects deemed by U.S.D.A., through its consensus determination procedures, to serve the national interest. Funds to modernize facilities have been lacking. Flexibility in the use of federal funds for research has been replaced with specific support for designated research activity. Competitive grants are replacing traditional formula funding.

Similar mission oriented programming is increasingly characteristic of extension's activities. Such programs normally require the addition of cadres of non-tenured staff or the redeployment and reassignment of tenured faculty. Unfortunately, due to the inadequacy of state funds the choice of declining the mission oriented activity is not always a real alternative. The problem becomes critical in those instances where the activity does not represent one that would normally receive priority consideration by the faculty member, the department, or the college. The problem is further confounded in those instances where the faculty member has a joint appointment and the extension and/or research activity does not match his teaching interests and assignments. One primary justification for joint appointments, therefore, is negated by the non-transferability of the extension or research experience.

Depending upon the organizational structure of your college it is possible to have faculty involved in activities that have no instructional counterpart. This is closely associated with Fred Wiegmann's concerns.

The increase in mission directed activities has also been characterized by the recurring threat of Congressional termination of funding. Some programs have been short-lived. It makes long

range planning difficult, especially the cooperative, joint activities I proposed between states.

I foresee federally supported extension and research mission oriented activities increasingly becoming politicized to the detriment of our joint teaching, research, and extension activities. A solution frequently suggested is the separation of extension from the other activities. I do not consider this to be a satisfactory or desirable response to the problem.

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