

in carrying out the different phases of plant sanitation and other duties required under the regulations governing the Act. This always makes the job easier for the Department and the best results are realized when a spirit of cooperation exists between inspection personnel and plant management. The maintenance of good sanitation is a continuous process, and continued improvements in inspection and

sanitary techniques are resulting in cleaner, more efficient, plants, producing products of a higher quality than ever before. The protection of human health is the first and principal object of the inspection program. Consumers benefit by assurance that the poultry they are buying and eating are wholesome and have been prepared under clean, sanitary conditions.

THE LAND-GRANT SYSTEM AND THE MILK SANITATION PROGRAM¹

V. H. NIELSEN

Department of Dairy and Food Industry, Ames, Iowa

The Centennial of the Land-Grant college system is fittingly observed by the International Association of Milk and Food Sanitarians as it will be by many other professional and scientific groups. Much of the initiative to establish systematic and uniform procedures in the examination of milk products and many contributions to the scientific basis for a sound milk sanitation program came from workers in Land-Grant universities. Through their academic and extension teaching, the Land-Grant universities created a force of industry workers, milk sanitarians and dairy farmers who together elaborated and enforced the high standards of milk sanitation which give consumers of milk and dairy products in the United States protection unequalled in the world and which is an essential requirement for the success of our milk industry.

During the coming year many academic, professional, business and trade groups will recognize the 100th anniversary of the Morrill Act. When President Lincoln signed the Act on July 2, 1862, neither he nor the authors and supporters of this momentous legislative measure — particularly Justin S. Morrill of Vermont and Jonathan B. Turner of Illinois — could possibly have assessed the result we see about us today in the form of the Land-Grant college system and its accomplishments. Yet a century later, we must give them credit for having exercised profound vision and imagination when they acted to convert part of this nation's land resources to the development of its potentially greater human resources through education.

Judged by economic and political philosophies of our age, the Morrill Act seems reasonable and logical enough. Seen on the background of the social traditions of the 1860's, it must be regarded as a

major feat of statesmanship. Measured by our yardstick of economic values, the grant may look modest. It involved an endowment to each state of 30,000 acres of land (at an average value of \$1.25 per acre) for each congressional representative. Time and economic growth increased the value of this endowment, but it was even more important that an idea had been born and that a large part of the republic's natural bounty was committed to promote liberal and practical education of the agricultural and industrial classes.

In our admiration for the originators of the Land-Grant college idea, we must not forget the state legislatures who eventually recognized their obligation to support the colleges. Nor must we forget the several generations of administrators, teachers and researchers who translated the idea into action and husbanded the resources so that the Land-Grant college system became this nation's largest single source of trained and educated manpower. The 68 Land-Grant universities today enroll 20 percent of this country's college students. They grant 40 percent of all doctorates, 50 percent of the doctorates in sciences, engineering and health professions, all of those in agriculture and 25 percent of those in arts, languages, business and commerce.

The kind of practical training envisioned in the Morrill Act set the Land-Grant colleges apart from the older universities in the United States and Europe. It emphasized professional and specialized education designed to meet the needs of a young, vigorous and growing nation wanting to apply the discoveries of science and technology to its life and growth. It was unique in its concept of conserving, creating and transmitting knowledge through a wide variety of graduate and undergraduate curricula, through basic and applied research and through extension of the university teaching beyond the campus

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to the entire population in adult education courses, conferences, institutes, radio and television.

In carrying out these functions the Land-Grant universities themselves established an important tradition and infused the educational philosophy in this country with the noble idea which inspired the authors of the Morrill Act, namely, that practical and liberal education should embrace all knowledge in service to all people. In the process the Land-Grant universities have reached the highest academic standards and goals. Of 38 living American Nobel laureates who received their academic training in the United States, 20 earned degrees from Land-Grant universities. A catalog of accomplishments of Land-Grant scientists include some of the greatest research achievements in medicine, engineering and agriculture.

It is appropriate that the Land-Grant Centennial should be recognized by the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS during this Golden Anniversary Meeting. Primarily through the conscientious work of the members of this Association does our country enjoy the highest standards of milk and food sanitation in the world. Nowhere else is the public health so well protected against potential hazards in foods. Credit for this should go to the medical profession, the U. S. Public Health Service and state and local health officers. It is not difficult to show, however, that much of the knowledge, new scientific developments and educational work which implemented this high standard came directly or indirectly from the Land-Grant college system. Many of the medical people and public health workers themselves were graduates of the Land-Grant schools and many of the scientific contributions upon which rests our present milk and food technology were made by workers in Land-Grant institutions. One needs only review the historical accounts of this development and scan the dairy literature or the bibliographies of successive editions of "Standard Methods for the Examination of Dairy Products" to be convinced of this. H. O. Russell at the University of Wisconsin was among the first to show the relationship between infestations of microorganisms and the keeping quality of milk. S. C. Prescott at the Massachusetts Institute of Technology was the first to point out the need for uniform methods in the examination of milk for sanitary quality. He took the initiative to formulate the first standard procedures and suggested the establishment of a committee to study the various methods then used for bacteriological examination of milk and to recommend a uniform procedure.

Russell from the University of Wisconsin was the first chairman of that committee. Thus the leadership which eventually produced the first "Standard Methods" came from the Land-Grant institutions and many Land-Grant scientists served on the committees which prepared subsequent editions.

The development of dairy industry curricula in many of the Land-Grant universities lead to strong teaching and research programs in the bacteriology and chemistry of milk products. One result of this was the training of workers and leaders in the dairy industry who thoroughly understood the scientific basis for milk sanitation and therefore appreciated and accepted the continuing demands on the industry for refinements in processing technology in the interest of public health. An equally important product of this development was the training of capable milk and food sanitarians with truly professional attitudes toward their work whether it be regulatory or educational.

A milk sanitation program, the standards of which were continuously changed and improved in the light of new findings, was not always easy to sell to dairy farmers and the dairy industry. A large share of this task was assumed by dairy industry extension workers in many of the Land-Grant universities. In untold meetings and demonstrations did they teach dairy farmers the principles and practices of good milk handling, thereby doing spade-work essential to the program.

When all is told, the milk sanitation program in the United States must be credited not only with protecting the public health but also with making possible a milk industry having the size and stature of ours. How much milk marketing depends for its success on milk sanitation is not fully appreciated. The need for better nutrition through increased milk consumption in many of the world's underdeveloped countries is acknowledged by most people concerned with this problem. In many of these countries it is not lack of milk production alone which prevents undernourished peoples from reaching this goal but even more so the lack of sanitation. With this in mind, consumers, dairy farmers and the milk industry ought to recognize the blessing of a well developed, scientific milk sanitation program like the one which operates in this country. Without the slightest stretch of the imagination we can show that much of this program and its benefits came directly from the Land-Grant college system. It is one of the examples of how the Land-Grant system made life in the United States richer, happier and healthier.