

**HISTORICAL HIGHLIGHTS: DAIRY EDUCATION AND RESEARCH PROGRAMS
AT THE UNIVERSITY OF CALIFORNIA**

(For presentation at symposium to celebrate the 75th Anniversary
of the founding of the Davis Campus. January 12, 1984)

Our present Department of Food Science and Technology had its historical origin in Berkeley in two separate roots, one for fruit processing and one for dairy industry.

The University's first course in dairying was a series of 12 lectures offered in 1879 by Professor E. J. Wickson. Wickson had joined the University in 1875 with his primary interest in dairying, but later he transferred his interest to horticulture and subsequently became Dean of the College of Agriculture. Wickson Hall at Davis was named for him.

In 1899 Professor M. E. Jaffa gave a course on chemistry of dairy products, and ever since then dairy courses have been offered by the University. Between 1900 and 1902 the group of dairy faculty at Berkeley was strengthened by addition of three new members, Prof. Leroy Anderson as the leader and E. W. Major and A. R. Ward.

In view of the establishment of the Peter J. Shields Chair in Dairy Food Science in our department, it is appropriate to give special recognition to Judge Shields' key role in establishing the Davis campus and its early educational programs. In his publication "The Birth of an Institution - the Agricultural College at Davis" Shields described a conversation he had in 1899 with William Saylor, a graduate of Pennsylvania State College. Shields was then secretary of the State Agricultural Society and he had appointed Saylor

to head the dairy department at the State Fair. Shields was impressed with what Saylor had learned at Penn State about judging butter, and was disappointed to learn that no similar educational programs were available in California. The discussion with Saylor stimulated Shields to learn more about agricultural education in other states and to start promoting the establishment of a dairy school and experimental farm in California. He was supported in his efforts by several agricultural and dairy organizations, among them California Creamery Operators Association, which was established in 1900, and by publications such as the Dairy and Produce Review, of which W. H. Saylor was editor.

In 1903, Shields prepared a bill to establish a "State Dairy School and Experimental Farm". At the University, the Regents and most of the faculty at Berkeley opposed the bill, including then Dean Wickson. Two supporters were President Wheeler and Prof. Major. Politics entered into choice of the location for the proposed facilities. Two almost identical bills were passed by both the Assembly and the Senate. They differed only in that one provided for establishing the school in Yolo County, and the other in San Mateo County. Governor Pardee vetoed both bills and informed Shields that if he would enlarge the scope of the bill and get it passed by the legislature, Pardee would sign it.

Shields, with assistance of Prof. Major, rewrote the bill to provide for educational programs similar to those at the University of Minnesota, where Major had studied. Shields lobbied tirelessly for the bill and it was passed in March, 1905.

In April, 1906, the University purchased tracts of land at Davisville totaling 779 acres and costing \$103,200. The land was occupied September 1, 1906 and by October bids had been received for construction of the first four

buildings, two cottages, a stock judging pavilion, and a dairy building, to cost about \$36,000.

The buildings were constructed in 1907. The dairy building was located on what is now Peter J. Shields Avenue on the northeast corner of the present Shields Library block. It was a frame building equipped with offices, a large lecture room, a testing lab, and two large dairy manufacturing rooms. The judging pavilion served a variety of purposes at the fledgling school because it was the largest meeting room on the farm. It was relocated and preserved as one of our historical buildings and is now the Wyatt Pavilion Theatre. One of the original cottages was the farm manager's home, and it is still in use as University House, where Emil Mrak has his office.

The dairy faculty moved from Berkeley to Davis in 1908 and started offering dairy short courses and courses in the farm school program. In 1917 Dr. C. L. Roadhouse came to Davis as Head of the Dairy Industry Division, a position he held for 27 years, until 1944. A new dairy industry building was completed in 1922 at a cost of \$205,000, with an additional \$25,000 for equipment. It was renamed Roadhouse Hall in 1963. When built, it was considered the first permanent building on the campus, but it was demolished in 1974, while other buildings, much older and considered temporary, are still in use.

Roadhouse initiated a program of degree caliber instruction and augmented the faculty to meet the new responsibilities, in addition to the two-year diploma course. Instruction was suspended during World War II from 1943 to 1945. C. A. Phillips was acting head of the Division from 1944 to 1946, and E. L. Jack was appointed head in 1946. During the 1950's, the non-degree program was phased out and emphasis on graduate instruction and research was increased.

In recognition of the common principles embodied in the programs in Dairy Industry and Enology at Davis and Food Technology at Berkeley, the faculties of the three departments collaborated in developing a common Food Science major and a graduate program for MS in Food Science, which were approved by the Academic Senate at Davis in 1949. Most of the faculty of the Food Technology Department at Berkeley moved to Cruess Hall at Davis in 1952. The present Department of Food Science and Technology was established in 1959 by merging the faculties of the Food Technology and Dairy Industry Departments. Members of the Dairy Industry faculty at the time of the merger were Gene Jack, Chairman, Ed Collins, Walt Dunkley, Bruce Hubbell, Walt Jennings, Tom Nickerson, Clem Phillips, Helge Shipstead, Lloyd Smith and Nick Tarassuk, and Fred Abbott in extension.

After the merger, courses were reorganized to give further emphasis on principles that are common to all foods, and to reduce duplication that had occurred with the earlier course structure. Subsequently, exchanges of faculty among the buildings occupied by the enlarged department permitted grouping to bring faculty together on the basis of common disciplines and more efficient use of facilities and equipment. The increase in emphasis on principles and disciplines at Davis, as in many other academic institutions in the United States and elsewhere, resulted in decreased identity for specialized fields such as dairy industry, even though some specialized instruction and research programs continued.

The University has made and continues to make important contributions to California's dairy industry. During the early 1900's, milk production was increasing rapidly, but an industry had not developed to process and market it. Much of the milk was of very poor quality and adulteration by adding water and preservatives was common. The University offered practical short

courses to train potential employees how to test milk and cream for fat and adulterants, how to pasteurize milk, and how to make butter and cheese. As technology improved and the industry became more stable, demand developed for graduates of the two-year diploma course and later the four-year B.S. program. Alumni of these programs became leaders in all segments of the State's industry. I recently looked over a list of Dairy Industry Department majors in the late 1940's, when I came to Davis, and noted names of two presidents and several other key employees of major dairy companies, officials in our State Department of Agriculture and other regulatory agencies, and even two professors in our Department. Recent graduates of our department are moving into leadership positions in the dairy field.

The University's dairy research in the dairy industry field has also been of great benefit to our industry. Beginning with the work of Dr. Roadhouse, research on quality improvement, especially in flavor and microbiological quality, has continued to be strong at Davis. Our faculty have made many noteworthy contributions to knowledge of the chemistry of milk and its constituents, to control and use of microorganisms in milk and its products, and to technology for processing the principal dairy products. Grants from the Dairy Council of California have supported research of many of our faculty. In Extension, since 1970 Dr. John Bruhn has provided excellent liaison with industry as our Dairy Foods Extension Specialist.

Continuity of our Department's work in the dairy field is assured by two recent developments. Dr. Gary Smith joined our faculty two years ago to strengthen research and teaching in dairy food science. The recent establishment of the Peter J. Shields Chair in Dairy Food Science will further augment and assure continuity of the teaching, research and public service activities of the University in the dairy industry field.