

# Richard Bradfield

*April 29, 1896 — May 1, 1981*

It is fitting that Cornell's most impressive laboratory building is named for the late Professor Richard Bradfield, whose accomplishments were as impressive as they were unique. Committed to the idea that civilization was born when agricultural returns rose above the level of bare subsistence, he regarded the symbiotic relationships between science and farming as the foundation of prosperity and progress of world society. To this proposition he devoted his enormous energy, his remarkable talent for innovation as a chemist-agronomist, and his forceful personality.

Reared on a farm in Ohio, he graduated from Otterbein College in 1917 to find himself farming to support his sisters and widowed mother while teaching high school science and pursuing graduate studies at Ohio State University. With the postwar collapse of farm prices, he accepted an appointment as an instructor in the Soils Department of the University of Missouri in 1920. Two years later his Doctor of Philosophy degree from Ohio State was awarded, and his reputation as a physical and colloidal chemist was already rising rapidly. In 1927, as a Guggenheim Fellow in the laboratories of H. Freundlich at the Kaiser Wilhelm Institut für Physikalische und Elektrochemie in Berlin, and of G. Wiegner at the Technische Hochschule in Zurich, he developed concepts of the nature of soil colloids and techniques for evaluating their role in the acidic characteristics of soil.

Called back to Ohio State University as a full professor in 1930, he and his students expanded the application of physical and colloidal chemistry to oxidation-reduction potentials in soils and to the reactions of lime in soils.

In 1937 he moved to Cornell as professor of soil technology and head of the Department of Agronomy. He served as faculty representative to the Cornell University Board of Trustees, 1943-48. While building an expanded department, he taught dynamic courses in the physics and chemistry of soils as well as in soil fertility. The latter was, in fact, more nearly a course in philosophy for world agriculture. His lectures drew students from many disciplines and many countries, and their impact will not be forgotten by those who attended.

A trusted adviser to two deans of his college, he served on committees that recommended policies that are now Cornell traditions. A prime mover in development of the International Agricultural Development Program, he was a leading advocate for the Cornell project for rehabilitation of the College of Agriculture of the Philippines after its devastation in World War II.

Meanwhile, his influence had grown in his own country and abroad. The American Society of Agronomy sent him as its delegate to International Congresses of Soil Science in the USSR in 1930 and in England in 1935, and elected

him president in 1941-42. He was elected the first president of the Soil Science Society of America (1935-36) and was later to be president of the International Society of Soil Science (1956-60). He chaired the Colloids Division of the American Chemical Society (1936-37) and served as vice president (agriculture) of the American Association for the Advancement of Science.

He served as acting assistant chief, Bureau of Plant Industry, in 1939 and soil scientist (consultant) to the U.S. Department of Agriculture (1943-55). He chaired a Joint Land Grant College-USDA Committee on the National Soil Survey (1942-48) and was a member of the Agronomy Advisory Committee on Fertilizers, War Food Administration (1943-45). He was a member of the Advisory Committee on Agricultural Education, U.S. Department of State (1944), and chaired National Research Council Committees on Agronomy (1933-37) and on Training of Agricultural Research Workers (1944-46). He was a member of several other NRC committees and served NRC as a consultant on their Africa Foreign Aid Project. He was a member of the NRC National Agricultural Policy Board.

He was a member of the Visiting Committee on Biology, Brookhaven National Laboratory, and of the Committee on International Relations of the American Institute of Biological Sciences.

He was a member of the Standing Advisory Committee on Agriculture, Food and Agriculture Organization of the United Nations, and of FAO's Technical Research Committee, Freedom from Hunger Campaign. He served as an adviser to government bodies in Central and South America.

The above listing is incomplete but gives an impression of Richard Bradfield's involvement, as a Cornell professor, in affairs of his country and of the world. His major activities on the international scene, however, go far beyond the foregoing.

In 1941 Richard Bradfield was one of a party of three consultants dispatched to Mexico by the Rockefeller Foundation. They were to investigate the feasibility of an experimental program in the development of agriculture in an underdeveloped country. Their report was accepted and their recommendations put into effect. It was the opening gun of the green revolution. As consultant to the Rockefeller Foundation from 1941 to 1955, he was a principal adviser on the Mexican project, whose successes included breeding crop varieties adapted to the needs of Mexico and similar areas around the world, an achievement that was to win the Nobel Peace Prize for a member of the Mexico project team. By then, however, Richard Bradfield had been made the Rockefeller Foundation's regional director for the Far East (1956), and shortly thereafter he was elevated to the foundation's Board of Trustees.

Although still a Cornell professor, he was instrumental in the founding of the International Rice Research Institute in the Philippines in 1960 and in the foundation's assistance projects in Viet Nam, Thailand, Indonesia, Taiwan, Burma, Japan, and the Philippines. He was a leader in the development of an international program for training agricultural scientists and extension workers in Southeast Asia at the University of the Philippines and in the initiation of the Rockefeller Foundation's Indian Agricultural Program. During this period plans were developed for programs that are now operative in Central and South America and Africa.

On December 31, 1961, his term as trustee of the foundation completed, he retired from his professorship at Cornell and took up residence in the Philippines to work on a project of his own. He had long insisted that small farmers in underdeveloped tropical climates could, by clever systems of overlapping planting, produce more abundant and better balanced food supplies for themselves and their nations. What was needed was an appreciation of agronomic principles as they would apply to multiple cropping, with concrete examples as models. He went to the field to show with his own experience, his own hands, and his own imagination how it could be done, thereby initiating the next wave of the green revolution.

In 1971, at the age of seventy-five, he left his successful development-demonstration project to reside, for a time, as a senior fellow at the East-West Food Center of the University of Hawaii. From there he went as a visiting professor to the University of Florida's Center for International Agriculture in Gainesville. Finally, in 1978, he retired to private life near the home of his eldest son, and on May 1, 1981, a few days after his eighty-fifth birthday, his heart abruptly failed.

His wife, the former Hannah Stillman, his six children, eleven grandchildren, one great-grandchild, and four of his sisters survived him. His remains were interred in West Jefferson, Ohio, whence he came.

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