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WILLIAM PENN BROOKS OF MASSACHUSETTS AND JAPAN

The career of Dr. William Penn Brooks, who died in Amherst, Mass., on March 8, 1938, is associated with two widely separated institutions—his Alma Mater, the Massachusetts State College, and the Sapporo Agricultural College, now the Hokkaido Imperial University of Japan. To each he rendered a unique and worthy service.

Born in South Scituate, Mass., on November 19, 1851, Dr. Brooks was valedictorian of the class of 1875. A year of graduate work followed, supplemented long afterward by his receipt of the Ph. D. degree from the University of Halle in 1897. His active service began in 1877 in Japan, where he joined President W. S. Clark of Massachusetts, who had recently organized the first agricultural college in the Orient. Dr. Brooks served as professor of agriculture and director of the college farm, taught botany, and was acting president from 1880 to 1883 and again from 1886 to 1887.

Dr. Brooks' work in Japan was highly regarded. On his departure he was decorated with the Fourth Order of the Rising Sun, and in 1919 an honorary degree, *Nogaku Hakushi* (Learned in Agricultural Science), was conferred upon him by the Japanese Department of Education.

Returning in 1889 to Massachusetts, he became professor of agriculture and agriculturist in the experiment station, and continued in these capacities for 30 years. He was also acting president of the college in 1903 and in 1905-6, director of the Massachusetts Experiment Station from 1906 to 1918, and then consulting agronomist until his retirement in 1921. In 1928 he was designated emeritus professor of agriculture.

Dr. Brooks brought back with him a number of useful plants, among them barnyard millet and two other Japanese millets and several types of Japanese soybeans. One of his distinct achievements was his pioneer experimenting with these soybeans and their utilization.

His extensive studies with soils and fertilizers became widely known, and he was a frequent speaker at Farmers' Institutes on these subjects. He was also the author of a series of books on agriculture,

first published in 1901 and extensively used as texts in resident and correspondence courses and as a reference work by farmers.

Thus he led a very useful life. Both in Japan and Massachusetts he was turned to in times of emergency, often under very difficult circumstances, and he responded dependably and with scrupulous particularity. Following as he did such men of genius as Clark and Stockbridge and Goessmann, he showed himself a worthy disciple, not only continuing and corroborating much that they had begun but adding a substantial individual contribution.

COMPARATIVE EXPENDITURES FOR AGRICULTURAL AND INDUSTRIAL RESEARCH

According to data recently compiled by Mr. Howard P. Barss of the Office of Experiment Stations and available in microfilm or photoprint form as Document 1062 from the American Documentation Institute, the total research expenditures in the United States in industries and agriculture combined now average about \$2 per capita per annum. This is a little more than 1 ct. per dollar of income from these sources. Of this amount the estimated allotment for industrial research in 1937 was \$250,000,000, while for agriculture the appropriations for the fiscal year ended June 30, 1937, were \$35,699,299. This is in the approximate ratio of 7:1.

The gross income from manufactures for 1936 is estimated at \$14,690,000,000, while the cash farm income for the year is put at \$8,100,000,000. Home-consumed farm products raise the latter total to \$9,530,000,000. Thus the relative support for industrial research is 1.7 percent of the gross income and that for agriculture is 0.37 percent. On this basis the relative expenditure is about 9:2.

The disparity is the more significant in that the industrial research is financed directly by the industries themselves, while the agricultural research is for the most part supported by Federal and State appropriations. Since the profit-seeking motive undoubtedly underlies the industrial expenditures, it does not seem probable that research in this field is being maintained extravagantly. If we assume that the needs and opportunities are proportionately as great in agriculture, the conclusion seems warranted that agriculture has not been unduly subsidized by what has been done thus far in this direction.

Correspondence received in connection with the inquiry revealed that many industrial concerns are investing in chemical research alone from 2 to 7 percent of the returns from their gross sales. It is stated that "even during depression times there were in the United States approximately 1,600 industrial research laboratories with more than 22,000 technically trained men and women at work."