

Ralph Eliot Smith, 1874–1953

Founding Father of California Plant Pathology

Ralph E. Smith arrived in Berkeley in 1903 to accept an appointment as assistant professor of plant pathology and was described as a pioneer in plant pathology (1) for his great role in developing the discipline. No one could have predicted the great influence his career would have on the field of plant pathology throughout the world and that he would provide the genesis for the founding of three departments in California: at Berkeley, Davis, and Riverside.

Smith graduated from Massachusetts Agricultural College at Amherst in 1894 and remained on the faculty as an assistant professor of botany and German until 1903. During those years, he published with George Stone on a great variety of diseases. He spent a year (1897–1898) in graduate study in Munich, Germany, with Robert Hartig and Carl von Tubeuf and two subsequent summers at Harvard with W. G. Farlow and A. B. Seymour.



The circumstances of Smith's move to California clearly demonstrate his pioneering spirit. He read in a California Experiment Station report by Director E. Hilgard that asparagus rust was a serious threat to the industry and that something should be done about it. He had experience with the disease and offered his services to Hilgard, who appointed him as assistant professor of plant pathology.

He was immediately successful and found that asparagus rust could be controlled by the application of sulfur dust. There were many serious disease problems in California, and, as the only plant pathologist in

November 2008



| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | |

the state, his services were sought by many grower groups. In 1904, he developed a control for pear scab; and in that same year, he was faced with a devastating outbreak of pear blight. He knew what to do. Funds were allocated by the state legislature, M. B. Waite and colleagues were brought from Washington, DC, and a task force was organized that was successful in reducing damage from this disease.

As a result of his contributions, he had broad-based support from California's agricultural industries and was influential with the legislature. In 1905, he requested and received funds from the state legislature to establish the experiment station at Riverside and the Southern California Pathological Laboratory at Whittier. In that same year, the university farm at Davis was established. He spent 6 years with the additional responsibility of Superintendent of the Southern California Laboratories and Experiment Stations. Before the end of 1907, Smith and his staff had published on asparagus rust, lemon brown rot, pear blight, pear scab, peach blight, walnut blight, tomato diseases, and curly top of sugar beets. Although he was primarily engaged in research, Smith organized and offered a course in plant pathology in 1904 and continued to teach an advanced course until his retirement. He had many graduate students, including P. D. Caldis, Harold E. Thomas, T. E. Rawlins, and H. N. Hansen. As department chair, he was a gifted administrator and dedicated to building a strong department. In 1927, he placed a staff member on the Davis campus with the appointment of J. B. Kendrick. By 1932, the Berkeley department and the Davis division numbered about 20 members. Smith continued as chair until 1936.

Smith maintained a productive research program throughout his career. He was an internationally recognized authority on walnut and its diseases and became an authority on brown rot of stone fruits, olive knot, peach shot hole, and celery blight. He also was involved in basic research, publishing with H. N. Hansen on the phenomenon of sorting of nuclei in fungi giving rise to sectoring and the role of hyphal anastomosis in mixing nuclei. His influence was felt everywhere. His student E. B. Babcock organized and became chair of the genetics department, and Smith was even instrumental in the development of the Babcock peach. He was a charter member of The American Phytopathological Society and the first president of its Pacific Division. His distinguished career places him as one of the key pioneers in the development of American plant pathology.

1. Hewitt, W. B. 1987. R. E. Smith: Pioneer in phytopathology. *Annu. Rev. Phytopathology* 25:41-50.
2. Smith, R. E. 1953. The beginnings of modern plant pathology in California. Archives, Bancroft Library, U.C. Berkeley.

Prepared by Milton Schroth and Al Weinhold