The Department of Sericulture of the National Agricultural Research Bureau, Nanking, with 6 project leaders, is centering its attention on the improvement of silkworms by breeding, using methods that rather closely parallel those which have been used successfully in the United States with corn. Diseases and parasites and their control are being studied also as well as varietal trials of the mulberry tree.

There are departments of sericulture at the National Central University, the University of Nanking, National Chekiang University, National Sun Yatsen University, Lingnan University and Liao Chung Kai Agricultural and Industrial School, Canton. At these institutions there are 16 project leaders working with silkworms. The breeding of silkworms is being studied at all 6 schools, the genetics of silkworms at 2 schools, diseases at 3 schools and varietal trials with the mulberry tree at 2 institutions.

The Provinces of Kiangsu, Chekiang and Szechuan have sericultural experimental stations, with 5 project leaders. All three stations are studying silkworm breeding, while the stations in Kiangsu and Chekiang are making varietal trials of the mulberry tree. Diseases of silkworms are being studied in Szechuan Province. Several of the provincial stations are distributing silkworm eggs to the growers. Thus in the provinces of Kiangsu and Chekiang more than three million sheets of improved eggs were used in 1934.

In addition to the above institutions and experiment stations the International Committee for the Improvement of Sericulture is carrying on a silkworm breeding project and the Bureau of Sericulture in Canton is making studies on the uses of silk, the control of diseases and the breeding of improved varieties.

The Sericulture Improvement Committee of the National Economic Council, organized in 1934, has extensive studies under way for the improvement of all branches of the silk industry.

The provinces of Szechuan, Chekiang, Anhwei, Hupeh, Shantung and Kiangsu have extension bureaus for sericulture. The most important phase of their work is the distribution of improved disease-free eggs, a total of over one hundred thousand cards of eggs having been distributed. Other phases of work in some provinces include the distribution of improved mulberry trees and the organization of cooperatives for the sale of farmers' products.

*Other research fields:* In addition to the lines of work mentioned already, probably the most important other phase of agricultural research in China is in agricultural economics. The studies of Dr. Buck at the University of Nanking are well known. This work is being continued on a large scale, is well supported and is making available to workers in other countries an accurate picture of farming conditions in China. It is helping, also, to make known some of the important farm problems and is aiding in their solution. The Crop Reporting Service of the National Agricultural Research Bureau, inaugurated in 1933, is of great value in making available statistics of crop production.

According to statistics made available by W. S. Tong, of the Department of Agricultural Economics of the National Agricultural Research Bureau, there are four colleges or universities that have special departments of agricultural economics, and courses in agricultural economics are given in 18 other colleges or universities. To date 121 graduates have majored in agricultural economics, including students from the University of Nanking, National Peiping University and National Chekiang University. In addition to the University of Nanking and the Research Bureau, already mentioned, twelve other institutions are conducting research on agricultural economics.

Research along agricultural engineering lines is being developed at several institutions, although work in this field has not been undertaken to any great extent.

### Conclusion

The rapid expansion of agricultural research in China in recent years is one indication of the widespread interest among Chinese leaders in improving the living conditions of the people. The present tendency is to work primarily on problems of an immediate practical importance. With the basic farm crops the immediate end in view is to make China self-sufficient. There is, however, in China a growing appreciation of the value of agricultural research as one means of helping to develop efficiency in agriculture.

# OBITUARY

## JAMES BERTRAM OVERTON

News of the death, on March 18, of Professor Overton came with a shock to a wide circle of close friends, and particularly to the many who have worked with him as students.

James Bertram Overton was born at Richmond, Michigan, on October 23, 1869. His graduation from the University of Michigan in 1894 was followed by a year of high-school teaching at Black River Falls, Wisconsin, and this by three years as senior master in mathematics at St. John's Military Academy, Delafield. In 1898 he began graduate work at the University of Chicago, where he received the degree of Ph.D. in 1901.

For the following two years he served as professor of biology at Illinois College, Jacksonville, which institution later (in 1930) gave him the honorary degree of Sc.D. The year 1903–4 was spent in Strasburger's laboratory at Bonn, under appointment by the Carnegie Institution of Washington as research assistant. In 1904 he came to the University of Wisconsin as instructor in botany. Here he remained, being successively assistant professor of botany (1907), associate professor of plant physiology (1912) and professor of plant physiology (1915).

On December 26, 1901, he was married to Mary E. Cochran, of Ashland, who with one son and two daughters survives.

Overton's work with *Thalictrum purpurascens* was one of the very early studies of parthenogenesis in plants. In this species he first demonstrated that parthenogenesis occurs, and then determined the details of the cytological history which supplies an explanation of the phenomenon. Following this came a series of studies of meiosis, spore-formaton and nuclear organization. Gradually his attention was turned to the experimental phases of physiology, in which his interest had been aroused while working with Barnes and Loeb at Chicago. In this field falls his successful induction of parthenogenetic development under controlled conditions in *Fucus*, a piece of work which recalls his previous study of *Thalictrum*. Most extensive of his physiological investigations were those dealing with the course of the sap flow and with its determining and regulating factors. Part of this work was done at the Tucson and Carmel laboratories of the Carnegie Institution of Washington, where, as research associate, he spent parts of each year from 1925 to 1929. The outcome of these years was a series of studies, published in conjunction with Dr. D. T. MacDougal and Dr. G. M. Smith. At this time also Overton began a study of the structure and history of the long-lived cells which had been found by MacDougal to occur in the stems of certain cacti.

Reference has been made to Dr. Overton's wide circle of friends and acquaintances. His unusually extensive acquaintance was an outcome of his deep interest in human problems and of the capacity for friendship which was one of his notable traits. Somewhat the same type of interest was manifested by his activities in connection with the scientific and other organizations of which he was a member. A fitting recognition of his services in this direction was the award in 1933 by the American Society of Plant Physiologists of its Charles Reid Barnes life membership. He was a regular attendant at scientific meetings until the precarious state of his health in more recent years had made travel, especially in the winter, dangerous and often impossible. Despite frequent illnesses, however, he retained so much of his old-time vigor, and was so active in the interims of comparatively good health, that there was no premonition in any mind of the end that finally came so suddenly.

CHARLES E. ALLEN

# SCIENTIFIC EVENTS

## THE STANDARDIZATION BUILDING FOR THE BUREAU OF AGRICULTURAL ECONOMICS

A NEW six-story building has been made available for the Bureau of Agricultural Economics to house many of the research activities centering about the standardization of farm products. It will be devoted particularly to standardization and research in cotton, wool, hay, seeds, beans, peas and soybeans. It contains more than seventy-five offices and laboratories equipped for intensive study of the properties and qualities of these products. In addition, it provides warehouse space for more than 1,000 bales of cotton, 600 bales of hay and large quantities of wool, which will be stored under conditions in which fire hazards have been reduced to the minimum. Every effort also has been made to provide for the fullest possible protection of fiber standards employed internationally in world trade of cotton, research records and technical equipment. Special emphasis has been given to provide the best possible natural lighting for grading and classification work and for intensive research related to fiber properties, including color.

On the top of the building is a group of classing rooms for cotton and wool with slanted skylights facing the north. These rooms were designed to be shadowless. They provide lighting conditions which have been found essential in judging color, diameter and other factors in grading fibers. Cotton, wool and hay produced in all areas of the country, and to some extent in foreign countries, will be sampled, classed and graded in connection with the program of evaluating properties and qualities.

Fireproof doors and automatic sprinkler systems in the warehouse section, which may be isolated from the offices and laboratories, are safeguards against the extreme fire hazard. By day and by night all parts of the warehouse will be under constant watch.

Scientific research in the new cotton laboratories will include studies of cotton staple length in relation to staple classification and standardization, the relationship of cotton color to grade classification and stand-