



Annual Report 1935-1936

TO THE PRESIDENT OF THE UNIVERSITY:

SIR,

Professor Oakes Ames, Supervisor, having requested to be relieved of his multifarious administrative duties, continued to direct the activities of the Arboretum until October 17, 1935, when I took over his duties as Acting Supervisor. For nine years, he served the Arboretum with outstanding success. Under his administration, the endowment of the institution was more than doubled, extensive additional facilities were provided, and the staff greatly increased. An outstanding contribution was his abandonment of the policy of isolation and the adoption of a new policy of coordination of the work of the Arboretum with that of the other botanical units and the University as a whole. He retains his connection with the University as Research Professor of Botany and continues to direct the activities of the Botanical Museum.

[Assistant Professor John George Jack](#) retired from active service at the close of the last year, while Dr. Edgar Anderson, Arborist, resigned to accept appointment at Washington University. [Dr. Donald Wyman](#) was appointed Horticulturist, effective January 1, 1936. [Associate Professor Karl Sax](#) was promoted to full Professorship.

The winter of 1935-36 was much milder than the two preceding ones, so that comparatively little injury was done to the outside plantings. [Dr. H. M. Raup](#) has continued his investigations of winter climatic conditions in the Arboretum in relation to winterkilling of various species of woody plants. Through the cooperation of the Park Department, 450 feet of new wire fence was installed, and all boundary fences were painted. Roads, paths, and benches were repaired as needed, and much attention was given to the problem of draining the bog opposite the Administration Building.

During the year, 1,390 packages of seeds were distributed, as well as scions and cuttings of 899 species and varieties. Accessions include 454 packets of seeds, 592 scions and cuttings, and 1,894 plants. To the permanent plantings, 595 shrubs and trees were added. Over 600 species new to the living collections, many of them not previously imported into the United States, were received from various European sources, these selected by [Mr. Judd](#) on the occasion of his European trip in the summer of 1935.

THE HERBARIUM

The organized herbarium was increased by the addition of 21,363 specimens, bringing the total up to 430,062 mounted sheets. Loans totalled 1,362 sheets, while 2,376 duplicates were

distributed. The over-crowded condition of the herbarium is a very serious problem and in the very near future some provision must be made for normal expansion.

Extensive and important collections have been received from various parts of China, Malaysia, India, Australia, Africa, Mexico, Central and South America. The policy of granting financial support for cooperative exploration in China and in Mexico has been continued, as an important method of building up the general reference collections. Dr. H. M. Raup spent the entire summer of 1935 prosecuting field work in the Athabaska Lake region in northern Canada. In connection with his attendance at the International Botanical Congress at Amsterdam in September, 1935, [Professor A. Rehder](#) took advantage of the opportunity to visit the herbaria at Edinburgh, Kew, Paris, Berlin, Leiden, and Utrecht, bringing back photographs of types of about 230 species of Chinese plants.

THE LIBRARY

Additions to the library include 522 bound volumes, 559 pamphlets and 159 photographs. The total number of bound volumes is now 42,547, with 11,476 pamphlets and 17,762 photographs. Forty-three new periodicals were added to the list of those currently received. During the year, 425 individuals seeking information registered in the library.

THE PHYTOPATHOLOGICAL LABORATORY

The policy of exerting all possible efforts in furtherance of the campaign to eradicate the Dutch elm disease in the United States has been continued. Excellent progress has been made indicating a successful issue of the campaign if prosecuted as now projected. In this field, our efforts have comprised extension laboratory service, cooperation with other agencies, the preparation of special publications, direct pleas to the Federal Government urging proper support of the work, and the maintenance of a field laboratory on Long Island, New York.

Investigations have included studies of the *Cephalosporium* wilt disease of elms, investigations of rust fungi attacking conifers and pomaceous plants, and an investigation of a devastating disease of the pimento, the experimental part of the latter study being carried on in Jamaica in cooperation with the Jamaican government. The investigation of this unit forms an important adjunct to the work of the Arboretum both in the scientific and the practical fields.

THE CYTOGENIC LABORATORY

Work on cytotaxonomic problems of American species of *Iris* has been done by Dr. R. C. Foster; Dr. W. S. Flory has prosecuted additional work on the gymnosperms; while Dr. H. Dermen has analysed various triploid varieties of *Malus* and has continued his studies of polyploidy in *Spiraea*. Investigations also include work on the problem of experimental production of polyploidy, as well as on the chromosome structure in relation meiosis and

genetics. Breeding work with ornamental shrubs, particularly the hybridization of American and Asiatic species has been continued.

THE ATKINS INSTITUTION OF THE ARNOLD ARBORETUM

Mr. Robert M. Grey, who since 1899 has constantly been associated with the plantings at Soledad, retired on June 1, 1936. To his continuous efforts over a period of 36 years, we are largely indebted for the present comprehensive collections of tropical plants now growing at the Atkins Institution. To succeed Mr. Grey, we were fortunate in securing the services of Mr. David Sturrock, a thoroughly competent plantsman with 12 years' actual experience in Cuba.

On September 27-28, 1935, the plantings were very extensively damaged by the worst hurricane ever recorded at Soledad. The high winds with a velocity of from 80 to 90 miles per hour continued for over five hours. Many of the fine old trees were uprooted or badly broken, and many palms were blown down or their tops were snapped off. A generous donation from Mrs. Atkins, supplemented by the transfer of a similar amount from Arboretum funds, only in part sufficed to cover the extraordinary expenses involved in removing the debris and renovating the plantings. Extensive additions have been made to the living collections through donations and exchanges. Messrs. Faull, Darlington, Goodwin, de Lisle, and Kerkovian, members of the University staff or graduate students, took advantage of the facilities available at the Atkins Institution to pursue their studies and investigations there in various fields of biology. Grants or fellowships have already been awarded to six students for work at Soledad during the coming season.

PUBLICATIONS

The usual numbers of the *Bulletin of Popular Information* and of the Journal of the Arnold Arboretum have been prepared and issued. In addition, staff members have prepared and published 81 technical and semi-technical papers in various periodicals as listed in the [*Journal of the Arnold Arboretum* 17: 366-369. 1936.](#)

GIFTS

The Arboretum continues to receive current gifts in support of its work from various interested individuals and organizations. For the Dutch elm disease investigations important financial contributions have been received from the North Country Garden Club of Long Island, Mrs. Harold I. Pratt, the Massachusetts Society for Promoting Agriculture, and the Noanett Garden Club. Professor Oakes Ames presented 100 colored lantern slides, and through the generous support of Mrs. Louis A. Frothingham we have been able to add 250 more. For extraordinary expenses at the Atkins Institution occasioned by the destructive hurricane of September, 1935, a generous donation was received from Mrs. Edwin F. Atkins. In addition to our normal exchanges, numerous gifts continue to be made to both the library and the herbarium, as well as material for the living collections. Some additions have been made to the endowment of the institution. The Isabel Butler property, consisting of a residence with about

1~ acres of land and a well-developed garden on the Centre Street side of the Arboretum, was bequeathed to the Institution by Miss Butler and became available May fifteenth.

E. D. MERRILL, Supervisor.