

## Preface

THE FIFTH CONFERENCE of the International Organization of Citrus Virologists was held in Japan from October 30 to November 8, 1969. Formal papers were presented in Tokyo, Shizuoko, Kyoto, Wakayama, Matsuyama, and Hiroshima. On the tour from Tokyo to the other cities, the delegates visited Tamagawa University, the Okitsu Branch of the Horticultural Research Station, Ehime University, the Ehime Fruit Tree Experiment Station, and the Hiroshima Fruit Tree Experiment Station. Various stops were made along the way in the citrus growing areas to see satsuma dwarf, hassaku dwarf, other citrus problems, and commercial processing plants.

The Fifth Conference was sponsored by the Horticultural Research Station of the Japanese Ministry of Agriculture and Forestry and the Phytopathological Society of Japan. Receptions and entertainment were provided by the President of Tamagawa University, the Governor of Shizuoko Prefecture, the Governor

of Wakayama Prefecture, the Governor of Ehime Prefecture, and the Governor of Hiroshima Prefecture.

At the business meeting in Hiroshima on November 8, J. M. Bové was elected Chairman to succeed G. Scaramuzzi, E. C. Calavan was named Chairman-Elect, and J. B. Carpenter was elected Secretary-Treasurer to succeed E. O. Olson, deceased.

Many of the delegates were fortunate enough to take the tour of northern Kyushu arranged by the Organizing Committee for the period November 8-11. A post-conference tour of Southeast Asia was also arranged by the Organizing Committee. November 15-16 were spent in Taiwan at the invitation of the National Taiwan University and the Joint Commission on Rural Reconstruction. Various orchards were visited to see the likubin disease, which is causing much damage to citrus in Taiwan. On November 18-19, an inspection and sightseeing tour of Hong Kong was made. The

post-conference tours closed with a visit to the Philippines on November 21–22 at the invitation of the Philippine Bureau of Plant Industry and the University of the Philippines College of Agriculture. We were given the opportunity of seeing the tremendous damage caused by the greening disease in Batangas Province.

The 116 members of the I.O.C.V. who attended the conference came from 15 countries—Australia, Brazil, Cuba, France, India, Italy, Japan, Philippines, South Africa, Spain, Surinam, Swaziland, Taiwan, Turkey, and the United States. Japan was represented by 46 delegates, the United States by 25, and Italy by 19.

Seventy-seven papers were submitted for presentation at the Conference. For one reason or another, some authors were unable to attend, in which case their papers were omitted or presented by colleagues. Most of the papers, but not all, are presented in this volume. They are grouped according to subject matter, more or less as they were in the official program of the Conference, and placed in separate sections.

The wide variety of topics presented to the Conference indicates an increase in the number of virus diseases and viruslike diseases and a broadening of our knowledge about them. The large number of articles concerned with stubborn and greening reflect the fact that these diseases are being recognized as increasingly important in many parts of the world where citrus is grown. An almost equally large number of papers about tristeza suggests that this dis-

ease remains one of the very important ones. Psorosis, exocortis, crista-cortis, impietratura, and xyloporosis are each represented by one or more papers, as are some apparently new viruslike diseases—two mechanically transmissible ones, a graft-transmissible factor, narrow leaf, and a new type of decline in Brazil. Other papers are concerned with citrus as a local lesion host of tobacco necrosis virus, the electron microscopy of tristeza diseased lime and satsuma dwarf diseased satsuma, and various physiological and biochemical aspects of citrus in relation to citrus viruses. A closing section is concerned with some miscellaneous topics, including new techniques, methods of control, and occurrence of virus diseases in Chile. Dr. H. D. Chapman's very interesting paper about symptoms of mineral deficiencies and excesses is regrettably given by title only, because it would have been too expensive to reproduce the many excellent illustrations accompanying his descriptions.

The editorial policies for the 5th Proceedings are the same as those used in editing the papers for the 2nd and 3rd Conferences. Again many of the papers were substantially condensed for reasons of economy, and consequently were partly rewritten. Authors, in practically all instances, had an opportunity to approve the changes that were made. Once again I emphasize that the opinions expressed in the papers are those of the authors—not necessarily those of the editor.

An index to authors has been pro-

vided to make it easier for a reader to find an article in which he is particularly interested. To save space and to make the text more readable, the latin binomials provided by the authors for *Citrus*, its relatives, and a few other species were deleted and placed in an addendum.

I am much indebted to members of the Publications Committee who did the preliminary editing for the manuscripts, thereby making my task

much easier than it would otherwise have been. Also, I acknowledge with thanks the capable assistance of my secretary, Mrs. Gloria Delavin, who retyped many of the manuscripts in whole or in part.

*Guinobatan, Albay, Philippines*

When citing this book, use the following abbreviation:

Proc. 5th Conf. Intern.  
Organization Citrus Virol.