

CLOSING REMARKS

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The downy mildew diseases have been a major constraint to production of maize for over 70 years in Southeast Asia. Since maize is the second most important food crop in this region and reported losses are quite high, this symposium has been very pertinent to food supply.

Significant advances have occurred since the pioneering work of Weston 50 years ago. And, it would appear that our knowledge of the corn down mildews has more than doubled from the time of the downy mildew workshop held in September 1969 at Nanital, India (proceedings published as issue number 2 in Volume XXIII Indian Phytopathology, 1970). Furthermore, the dramatic development of breeding good agronomic varieties that have resistance has had essentially its entire development in the past 7 years. In a sense this symposium has been a continuation of the workshop held 5 years ago at Nanital. We are grateful to The Tropical Agriculture Research Center for providing this opportunity to meet again, particularly since this symposium has brought together most of the world authorities currently active in research on this group of diseases. Each paper presented here has been critical to our understanding of these diseases and their causal pathogens. Discussion has elucidate many research problems where more knowledge is required. Solution to some of these problems either require or would be gratefully benefitted by collaborative research. Twelve problems that need to be quickly resolved are to determine the:

- 1) Overall taxonomic clarification of species in the genus *Sclerospora*;
- 2) Existence of physiologic races;
- 3) Viability of these pathogen in maize seed in order to provide guidance to plant quarantine officials;
- 4) Best method for collecting sufficient quantities of conidia and best method of rapid inoculation of large numbers of plants (several hectares) in the field;
- 5) Method for preservation of the asexual phase, for maintenance of cultures and storage of inoculum;
- 6) Inheritance of resistance so as to remove existing doubts;
- 7) Maximum amount of resistance that can be accumulated in a line or a variety;
- 8) Position of the genes for resistance in the many sources available in regard to whether they are the same or different;
- 9) Best procedure for collecting and preserving the resistant germplasm sources for future use;
- 10) Role that various cultural operations can have in minimizing loss; e.g., establishing higher plant densities of moderately resistant varieties in high disease intensity areas where 20-50% infection can be expected;
- 11) Feasibility of encouraging the development of a seed applied systemic fungicide which would provide protection from downy mildew for a month; and,
- 12) Precise environmental or epidemiological factors influencing development of these diseases.