

Food, Society, and Plant Pathology

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As society grows geometrically, its complexity grows geometrically. Sometimes one wonders if society will constrain itself one day into oblivion like the dinosaur. Agriculture and forestry are constrained like everything else and as they go, so goes plant pathology.

—Horsfall and Cowling*

The American Phytopathological Society, through its members, committees, and Council, has offered unique and valued leadership to the nation and world for almost three-quarters of a century.

This leadership has caused the resolution of key issues, both scientific and professional, in biology, agriculture, and forestry. The resolution of these issues has resulted in the development, dispersion, and implementation of new plant protection technologies, which in turn have assured an adequate supply of food and fiber for the people of the world. The Society has, thus, played a major role in successfully meeting the challenges of the agricultural revolution of the past 100 years. Without great effort I could cite "chapter and verse" in support of these contentions—and I am tempted to do so. My purpose, however, is not to bring credit to the Society for meeting the challenges of the past, no matter how much deserved, but rather to establish the fact that the Society and its leadership have the demonstrated capability and credibility to play an even more important role in resolving the critical issues facing the science and profession now and in the coming decades.

Certainly the need has never been greater; the challenges of the past pale in light of the challenges of the future. All of us are aware of the primary challenge: to increase the production of food and fiber through decreased plant disease loss in order to feed growing populations. This, of course, has been the primary challenge throughout our history. Now, however, we are told that time is an imperative, with some saying that food and fiber production must be doubled within the next two decades. Equally important, we are asked to meet this challenge in the face of significant and growing constraints broadly described as economic, social, and political.

Given our track record, I am confident—even optimistic—that if our success depended solely upon technology, we would meet the challenge even under the constraint of time. It is not a matter of technology, however, but one of social, economic, and political constraints, both at home and abroad, in putting that technology into place. Jim Kendrick (*California Agriculture*, Vol. 33, No. 10, 1979) put it this way: "Technologically, agricultural development in the United States is far along. The problems of the future arise from political, societal and

environmental considerations and from the fact that the necessary resources are escalating in cost and diminishing in supply." Speaking even closer to the point for plant pathologists, John Jenkins and Luc Lescar in their article "Use of Foliar Fungicides on Cereals in Western Europe" (*PLANT DISEASE* 64:987-994) state: "The development of effective fungicides during the past 10 years has provided farmers with a valuable tool for protecting cereal crops from foliar diseases. Now a strategy for using them effectively is needed. Economics will limit the frequency of application to some extent, *but other factors, social and political, may be influential in determining their use on a crop occupying such a large proportion of the countryside.*" (Italics mine.) Now I am not so confident of our success in meeting the challenge; I don't know the rules of the game—and that makes it difficult to play, let alone win.

In his 1980 Presidential Address, "Plant Pathology, Change, and the Future" (*PLANT DISEASE* 64:982-983), Hank Purdy posed a possible resolution of this dilemma in commenting that "Many people, and perhaps even some plant pathologists, believe an introduced change strikes only the designated target; this demonstrates their naiveté." Using international agricultural endeavors as an example, he draws a correlation between our failures in instituting technological change and our ignorance of social, cultural, and behavioral factors. He further states: "In many cases, these elements were not actually ignored; rather, the cause was a total unawareness that all the answers to a problem were not in hand." Hank's point is pertinent. If it is true that "naiveté" and "total unawareness" describe our understanding of the economic, social, and political constraints that are the key to our success in meeting our primary challenge, then we can indeed resolve the dilemma, learn the rules of the game, work to change them where feasible and appropriate, and measurably increase the probability of success.

This is where the Society can and should again assume a major responsibility. It should act to provide the forum—oral and written, formal and informal, national and international—that will cause the development of an informed awareness of these economic, social, and political constraints among its members and leaders. Then they will be able to deal effectively with the constraints in programs of teaching, research, extension, and administration. The needed mechanisms are in place: the Council, the Subject Matter Committees, and the Public Responsibilities Committee. Perhaps it would be appropriate and timely to give the Public Responsibilities Committee the assignment of assuring that such issues form a part of the program for the 75th Anniversary Meeting.

Having issued this "call to action," I will end with another quote from Horsfall and Cowling: "It is tempting to end this peroration on societal constraints by climbing up on a soapbox and 'getting involved.' To do so would be to sacrifice scientific objectivity. Objectivity is one of the few things a scientist has to sell. Politicians and soapbox orators are in plentiful supply. And besides, it would probably be pointless until society finally connects the high price of food and timber with some of the constraints it imposes on management." Taking heed of this word of caution, particularly as it relates to objectivity, I believe that this time is at hand—if not for society then at least for the Society.

*From Chapter 6, "Societal Constraints on Management," of *Plant Disease: An Advanced Treatise. Volume I: How Disease Is Managed*, edited by James G. Horsfall and Ellis B. Cowling, 1977, Academic Press, New York.