

Plant Pathology at an Off-Campus Experiment Station

D. H. SMITH, Texas A&M University, Texas Agricultural Experiment Station at Yoakum, and K. D. HICKEY, Pennsylvania State University Fruit Research Laboratory at Biglerville



Dr. Smith



Dr. Hickey

The triune concept of the land-grant university, i.e., teaching, research, and extension, is a hallmark of higher education in the United States. A substantial number of APS members received one or more academic degrees at a land-grant university. Moreover, land-grant universities provide an opportunity for plant pathologists to earn a living as a teacher, as a research scientist, as an extension specialist, or as a faculty member with responsibility in more than one area of service.

Since the passage of the Hatch Act in 1887, a national system of agricultural experiment stations has been developed in the United States. Connecticut has the distinction of being the first state with an agricultural experiment station. Since the inception of the first experiment station, scientists have been employed to conduct research that is relevant to the economical production of high-quality food and fiber.

It is common for land-grant universities to operate off-campus agricultural experiment stations and/or extension centers because of diversity in climate, soil, and agricultural commodities. To say that political considerations sometimes influence the site selection should not be a revelation to the readers of this editorial. Historically, scientists at these small stations have provided useful services to their clientele, and today they continue to serve a diminishing number of agricultural producers and an increasing number of urban citizens.

Plant pathologists who work at these stations are often assigned to specific crops and specific diseases. In some instances, the plant pathologist may be able to solve problems without the assistance of collaborators in other disciplines and to develop appropriate management strategies. It is often necessary, however, to collaborate with other disciplines, including agricultural engineering, biochemistry, entomology, horticulture, meteorology, plant breeding, and statistics. Although all of these disciplines are represented on the campus of land-grant universities, usually only one or two are represented at small experiment stations. Therefore, research progress on complex problems is often impeded because of insufficient scientific expertise at small experiment stations.

Small experiment stations are usually established to serve the needs of local producers. This enables plant pathologists to conduct field plot tests in the region where the diseases are economically important. In addition, the research scientist can interact with the local growers to maintain awareness of currently important plant diseases. The team approach to research often expedites the development of disease management strategies at stations with scientists representing several disciplines. A research plant pathologist usually has some office and laboratory space, secretarial assistance, a greenhouse, and field plot land available. Support staff to implement project objectives ranges from none to several employees.

Funds to support research at experiment stations are provided by land-grant universities. These funds are usually not sufficient to support an active research program, however. Hence, scientists at small experiment stations seek additional funding from commodity groups, agribusiness companies, and state and federal agencies.

Plant pathologists who have successful careers at small experiment stations are often self-motivated persons with a missionary zeal for their work. Some of the time-consuming elements of a university campus—e.g., classroom teaching responsibilities, local committee assignments, and frequent interaction with numerous colleagues and administrators—are absent at an off-campus experiment station. Instead, the off-campus scientist spends time supervising support personnel, conferring with representatives of companies and agencies who provide financial support, advising graduate students, and responding to the unexpected and urgent requests of local growers who are faced with crop losses resulting from plant diseases. The daily sense of urgency that exists in the campus environment may not be readily discernible at a small off-campus station. Some campus activities that involve the participation of off-campus scientists may be urgent from the perspective of the campus administrator but of minor significance to the achievement of research objectives at a small station.

The reward system in land-grant universities involves promotion, tenure, salary increases, institutional awards for superior performance, grower awards, and awards bestowed by professional societies. We have not gathered data to compare location effects on rewards received by on-campus and off-campus plant pathologists, but the results of a comparative study would be informative.

The public perception of a small experiment station is worthy of additional study. Persons who seek advice on disease management recommendations often want immediate solutions for complex problems. It is frustrating for them to learn that additional research will be needed to provide them with the appropriate disease management advice. The producer tends to regard the current disease as the most important one and, therefore, the one that deserves immediate attention. The experiment station plant pathologist, however, is faced with limited financial resources and must decide how much effort should be diverted away from ongoing research on major diseases that contribute to annual crop losses.

Some plant pathologists at small experiment stations have a limited opportunity to communicate with students and colleagues. Graduate students at some land-grant institutions, however, receive part of their educational experience at field stations and are usually well prepared to obtain positions that require a practical knowledge of plant pathology. The scientist who supervises students at off-campus stations is gratified when a student can assume the responsibilities of a new position without additional on-the-job training. To assist in student training, the scientist at a small experiment station should participate in regional, national, and international meetings to maintain current awareness of significant changes in the art and science of plant pathology. Advances in computerized information retrieval have been very helpful to those with limited library facilities. The availability of inexpensive microcomputers for data analysis and word processing is another benefit that contributes to productivity of plant pathologists at off-campus experiment stations.

On the 50th anniversary of the American Phytopathological Society, E. C. Stakman wrote: "For better or for worse, plant pathology had its genesis in fields and granaries more than in halls of ivy." Plant pathologists who spend all or part of their careers at an agricultural experiment station have a keen sense of appreciation for Stakman's conclusions about the origin of plant pathology.