

# Use of Video in Teaching Plant Pathology

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A course in plant pathology should afford students the opportunity to examine the diversity of diseases attacking crop plants under various environmental conditions and cultural regimes. This can present a formidable challenge to both instructors and students. In California alone, more than 200 commercial crops are being cultivated, and each crop is subject to several important diseases.

The University of California at Davis uses video support in a two-quarter (spring and summer) course on diseases of fruit, nut, and vine crops. In addition to weekly classroom lectures and laboratory sessions, at least 14 whole-day field trips are made to major crop production areas of the state, including Napa Valley, San Joaquin Valley, and Blodgett Forest in the Sierra Nevadas. Crops examined include almonds, walnuts, cherries, apricots, peaches, grapes, prunes, figs, citrus, forest trees, olives, and kiwis. Graduate students in plant pathology, pomology, plant protection and pest management, and international agriculture come from throughout the United States and from foreign countries to enroll.

Videotape offers several advantages. Lecture material is retrievable and available for instant replay; on-site recordings can be used in the classroom; and lectures by resident, visiting, or emeritus professors can be recorded for future viewing. Students participate in the productions, and some sessions are completed in the campus studio; we have observed that students

involved in producing and presenting their own materials take a more active part in the overall coverage of the course. Videotapes accurately document disease symptoms occurring in the field. When inclement weather or other distractions interfere with field trips, videotapes can be "substituted," at least in part, for written notes.

Plant pathology has a rich tradition and many colorful stories to record on film, and the time is ripe for such documentation. Video can capture pioneers of plant pathology in action. Currently, we have tapes of W. H. English (on fruit tree canker complexes), George Nyland (on virus and viruslike diseases of stone fruit crops), and S. M. "John" Mircetich (on black line disease of walnuts). We missed our chance to tape such notable visitors as J. G. Horsfall, M. Szkolnik, P. T. Jenkins, and M. V. Carter, but we hope to have another opportunity. We wish we could have tapes of such pioneers of fruit tree pathology in California as E. E. Wilson and C. E. Scott. We are planning to record W. B. Hewitt on his work on all aspects of grape diseases and A. C. Goheen on his work on indexing grape virus diseases and developing rootstock resistant to grapevine fanleaf virus. We do have the Hollywood television tape with T. A. Shalla and H. J. O'Reilly on the story of pear decline.

Camera crews of the campus Instructional Media office tape off campus as well as on, and there is no charge for programs designed for instructional use. The services are designed to facilitate delivery of videotaped material directly to the student. Many classrooms are equipped with television monitors; for those without, portable equipment is delivered to the classroom or laboratory at the instructor's request. Individual viewing carrels are available at the main library and other locations on campus, and students may check out tapes for private or small-group viewing. These tapes are easily rewound, so that any portion of the material can be reviewed.

New technologies such as the laser disk, which gives the user instant access to any of 56,000 separate images per disk, hold great promise for instruction in plant pathology. These instruments would be invaluable in retrieving recorded information about how to conduct DNA probes, perform ELISA, transmit grafts, isolate pathogens from the soil, and operate weather instruments and spore traps.