THE AMERICAN PHYTOPATHOLOGICAL SOCIETY

The APS Council

President, ALBERT R. WEINHOLD, University of California, Berkeley 94720
President-Elect, DON E. MATTHE, Montana State University, Bozeman 59717
Immediate Past President, ANNE K. VIDAYER, University of Nebraska, Lincoln 68583
Vice-President, PAUL H. WILLIAMS, University of Wisconsin, Madison 53706
Secretary, O. W. BARNETT, Clemson University, Clemson, SC 29631
Treasurer, RONALD CAMERON, Oregon State University, Corvallis 97331
Editor-in-Chief, APS Press, RICHARD W. SMILEY, Oregon State University, Pendleton 97801
Editor-in-Chief, PHYTOPATHOLOGY: D. MICHAEL BENSON, North Carolina State University, Raleigh 27695
Editor-in-Chief, PLANT DISEASE: C. WENDELL HORNE, Texas A&M University, College Station 77843

Councilors:
DOUGLAS P. MAXWELL, University of Wisconsin, Madison 53706 (At Large)
WILLIAM E. FRY, Cornell University, Ithaca, NY 14853 (At Large)
RANDALL C. ROWE, Ohio State University, Wooster 44691 (At Large)
JOSE AMADOR, Texas Agricultural Extension Service, Weslaco 78596 (Caribbean)
MEL LACY, Michigan State University, East Lansing 48823 (North Central)
DAVID R. HOUSTON, USDA Forest Service, Hamden, CT 06114 (Northeastern)
JOSEPH M. OGAWA, University of California, Davis 95616 (Pacific)
R. JAY STIPES, Virginia Tech, Blacksburg 24061 (Potomac)
JAMES M. MCGUIRE, Mississippi State University, Mississippi State 39762 (Southern)

Staff:
R. J. TARLETON, Executive Vice-President; STEVEN C. NELSON, Associate Executive Vice President; LARRY HARTMAN, Director of Finance and Administration; The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN 55121

Divisions of the Society

Caribbean: President, GUILLERMO E. GALVEZ, CIAT/IICA, Colombia; Vice President, JORGE VICTORIA, Cenicana, Palmira, Colombia; Secretary-Treasurer, JOSE J. GALINDO, CATIE, Turrialba, Costa Rica
North Central: President, DONALD M. HUBER, Purdue University, W. Lafayette, IN 47907; Vice-President, WILLIAM WILLIS, Kansas State University, Manhattan, 66506; Secretary-Treasurer, CAROL E. WINDLES, University of Minnesota, N.W. Experiment Station, Crookston 56716
Northeastern: President, GARY BERGSTROM, Cornell University, Ithaca, NY 14853; Vice-President, DALE BERGDAHL, University of Vermont, Burlington 05405; Secretary-Treasurer, STEPHEN JOHNSTON, Rutgers R & D Center, Bridgeton, NJ 08302
Pacific: President, JOSEPH G. HANCOCK, Jr., University of California, Berkeley 94720; Vice-President, JOHN S. M. MIRCETICH, USDA/ARS, University of California, Davis 95616; Secretary-Treasurer, FRED A. GRAY, University of Wyoming, University Station 82071
Potomac: President, WILLIAM L. MACDONALD, West Virginia University, Morgantown 26506; Vice-President, ROBERT B. CARROLL, University of Delaware, Newark 19717; Secretary-Treasurer, SUZANNE HURTT, USDA-ARS, PGG, Glenn Dale, MD, 20769
Southern: President, O. J. DICKERSON, Clemson University, Clemson, SC 29631; Vice-President, C. E. THOMAS, USDA-ARS Vegetable Lab, Charleston, SC 29407; Secretary-Treasurer, C. LEE CAMPBELL, North Carolina State University, Raleigh 27695

Editorial and Business Staff

Publisher and Business Manager, R. J. TARLETON; Graphic Services Manager, STEVE KRONMILLER; Senior Technical Editor, VERA BAKER; Technical Editor, JEAN RICE; Editorial Assistant, KERRY MOORE FELSTUL; Editorial Records Coordinator, JANICE SAMPSON

Subscriptions: Communications should be addressed to The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN 55121.
Nonmember subscription price: $165.00 per year domestic, $190.00 per year foreign (including Canada and Mexico). All prices include postage. Single current numbers (within 60 days of publication): $14.00. (Price of back volumes and separate numbers on request.) Airmail rates for delivery outside of North America quoted on request. Claims for copies lost in domestic mails must be received within 90 days of the date of issue; otherwise the replacement charge will be $14.00. Deliveries overseas are not guaranteed; foreign mailings are made at the subscriber's risk. No endorsement or any statement of claims made in advertisements is assumed by this journal or by The American Phytopathological Society. Membership in The American Phytopathological Society: Information concerning membership in The American Phytopathological Society and special publication rates for members are available from the business office of the Society.

Published monthly at The American Phytopathological Society
3340 Pilot Knob Road, St. Paul, MN 55121
(612) 454-7250

Second class postage paid at St. Paul, MN. PUB 431540

Copyright © 1988 by The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN 55121.