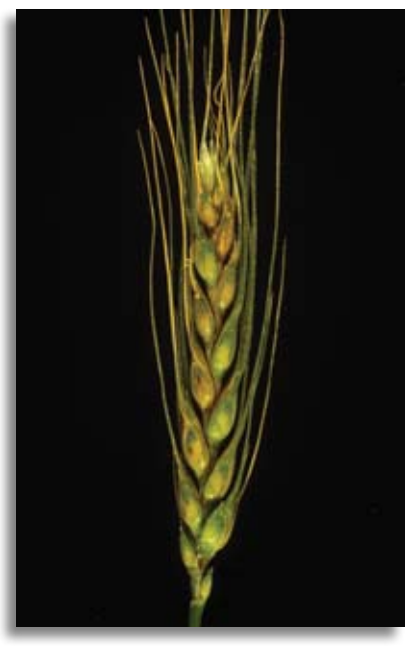
1991 Registry of Certified Professional Plant Pathologists is established. The process of certifying plant pathologists was initiated with a special committee in 1972 and debated for years. The development of the registry was put in motion by a recommendation from the Private Practice Committee in 1989.

President 1995
S. A. Tolin

1991 Severe outbreaks of Fusarium head blight (*Fusarium graminearum*) on wheat and barley in the Midwest from 1991 to 1997. These epidemics resulted in $1.3 billion in total direct losses and had a total economic impact of $4.8 billion. In addition to direct damage, *F. graminearum* produces mycotoxins, which must be below 0.5–2 ppm in the U.S. Grain with mycotoxin concentrations above this level has a reduced value or may be completely rejected.



President 1992
O. W. Barnett, Jr.

1992 First resistance gene cloned. *HM1* gene in maize provides resistance to race 1 of *Cochliobolus carbonum* by detoxifying a host-selective toxin

1992 Hypovirulence of chestnut blight fungus (*Cryphonectria parasitica*) is determined to be caused by a virus

1992 Discovery of Type III secretion systems in plant-pathogenic bacteria. Identification of the homology of the *hrp* gene clusters from plant-pathogenic bacteria to conserved pathogenicity determinants and secretion systems found in bacterial pathogens of animals.

President 1993
R. C. Rowe

1992 First bacterium registered by the EPA for frost protection and fireblight control—*Pseudomonas fluorescens* A506 (BlightBan A506, Frost Technology Corporation)

1993 Use of competitive exclusion to control aflatoxin. Using atoxigenic strain of *Aspergillus flavus* to inhibit aflatoxin contamination.

1993 Discovery of RNA-mediated virus resistance, or posttranscriptional gene silencing. Today, often referred to as RNA silencing or RNA interference (RNAi).

President 1994
C. J. D'Arcy

1994 APS*net* launches—online resource for APS members

1994 Online job placement service is launched

1994 The first leucine-rich repeat plant disease resistance gene is cloned (*Rps2*). Subsequently, dozens of similar genes are cloned from several plants.

1994 First resistance gene to a fungal pathogen identified and cloned—*Cf-9* gene for resistance to *Cladosporium fulvum* of tomato

1995 First gene for resistance to *Xanthomonas oryzae* pv. *oryzae*, cause of bacterial leaf blight, is genetically engineered into rice

1995 First report of programmed cell death in a plant disease. AAL toxins produced by *Alternaria alternata* f. sp. *lycopersici* and fumonisins produced by *Fusarium moniliforme* are discovered to be structurally similar to sphingosine, a mediator of signal transduction in neoplasms and necrosis in animals.

1995 APS Office of Public Affairs and Education is formed to provide leadership for public outreach. A. K. Vidaver was appointed as the acting director in 1995 and G. C. Bergstrom was appointed as the first director in 1996. In 2007, this office is renamed the Office of Public Relations and Outreach.

1995 First transgenic plant resistance to nematodes. Addition of the cysteine proteinase inhibitor (oryzacystatin-I) to roots reduced fecundity of *Globodera pallida*.

President 1996
W. E. Fry

1996 The Tree of Life is formally announced. This online database contains information on the biodiversity and evolutionary relationships of organisms.

1996 APS offers first post-doc memberships

1996 Introduction of strobilurin fungicides—kresoxim-methyl (1996) and azoxystrobin (1997). These fungicides are natural products of the basidiomycete *Strobilurus tenacellus*.

1996 First report of karnal bunt (*Tilletia indica*) on wheat in the U.S. This disease was first described in India in 1931. The disease causes relatively minor damage, relying on favorable conditions during heading for disease development. The major impact of the disease being present in the U.S. has been related to quarantines more than to direct effects of the disease itself. Within the U.S., the disease is restricted to localized portions of Arizona, California, and Texas.

1996 Blue mold of tobacco appears in Connecticut. This disease has been in the U.S. since 1921, causing several destructive epidemics until 1981 when Ridomil was put into service for disease management. In 1996, metalaxyl-resistant strains of the fungus *Peronospora tabacina* were found, leading to a new epidemic throughout most of the tobacco-producing areas in the U.S. in 1997.

1996 Actigard is developed. The active ingredient (acibenzolar-*S*-methyl) is a synthetic analogue of salicylic acid that activates the systemic acquired resistance in plants, providing a broad spectrum of disease resistance.

1997 First resistance gene cloned from a plant for nematode control. The *HS1*$^{pro-1}$ gene from sugar beet to control the sugar beet cyst nematode (*Heterodera schachtii*).

Exhibitors present their new products and services at the APS Annual Meeting in Indianapolis, Indiana, 1996.

Participants review the latest research during the APS Annual Meeting in Rochester, New York, 1997.