USDA Forest Service,
Pacific Southwest Research Station

Sudden Oak Death/*Phytophthora ramorum* Research

2009 funded projects

Project funds total approximately $1.5 million.

Ecology of *Phytophthora* spp. in watercourses: implications for the spread and management of Sudden Oak Death and other diseases. Kamyar Aram, Elizabeth Fichtner and David Rizzo, University of California Davis - $45,250

Sporulation of *P. ramorum* on trees and shrubs in western Washington forests, Gary Chastagner, Washington State University - $39,976

Epidemiology of *Phytophthora ramorum* and *Phytophthora kernoviae* in the UK. Elizabeth Fichtner and David Rizzo, University of California Davis; Joan Webber, UK Forestry Research - $9,420

Studying the epidemiology of *Phytophthora ramorum* in the air, soil and water, using a combination of intensive surveys and population genetic analyses. Matteo Garbelotto, University of California Berkeley - $80,800

Managing *Phytophthora ramorum* in tanoak forests. Everett Hansen, Oregon State University - $131,016

Studies on the latency period of *Phytophthora ramorum*. Marko Riedel, Stefan Wagner and Sabine Werres, Julius Kuehn Institute, Federal Centre for Cultivated Plants, Germany - $41,159

Inoculum thresholds necessary for infection of selected host species. Paul W. Tooley, USDA Agricultural Research Service, Ft. Detrick, MD - $39,555

Testing bark and wood of conifers for susceptibility to natural inoculum of *P. ramorum* and *P. kernoviae*. Clive M. Brasier and Anna Brown, Forest Research Agency, United Kingdom - $51,592

Investigating inoculum behaviour, infection and disease expression in relation to temperature and inoculum density of two aerial Phytophthoras (*P. ramorum* and *P. kernoviae*) on detached foliage. Sandra Denman and Joan Webber, Forest Research Agency, United Kingdom - $28,691

Variation in Tanoak's Resistance to *Phytophthora ramorum.* Matteo Garbelotto

and Katy Hayden, University of California Berkeley - $81,275; Jessica Wright, USDA Forest Service, Pacific Southwest Research Station - $9,556; Richard Dodd, University of California Berkeley - $52,608; Richard Sniezko, USDA Forest Service, Pacific Northwest Region, Dorena Tree Improvement Center - $2,000.

Monitoring migration, population structure and evolution of the Sudden Oak Death pathogen *Phytophthora ramorum* in North America. N.J. Grunwald, USDA Agricultural Research Service, Corvallis; E. M. Hansen, Oregon State University - $56,673

Epidemiology of *Phytophthora ramorum* in tanoak forests. Everett Hansen, Oregon State University - $102,312

The role of elicitins in the pathogenesis and biology of *Phytophthora ramorum,.* Daniel Manter, USDA Agricultural Research Service – Fort Collins; Everett Hansen, and Jennifer Parke, Oregon State University - $106,233

Sudden Oak Death Information Synthesis and Delivery. Douglas McCreary, University of California Berkeley - $58,000

Management of *Phytophthora ramorum* in tanoak and oak stands. Matteo Garbelotto, University of California Berkeley - $48,853; Ted Swiecki, Phytosphere Research - $2,000; Yana Valachovic, UC Cooperative Extension – Humboldt and Del Norte Counties - $20,664

Non-market economic impacts of Sudden Oak Death/*Phytophthora ramorum*, Jeffrey Englin, University of Nevada-Reno - $35,000

Detecting and monitoring *Phytophthora ramorum* and other species of *Phytophthora* in forest streams in the Eastern USA. S. N. Jeffers and Jaesoon Hwang. Clemson University - $66,760

Global Forest *Phytophthora* Website. Jennifer Parke, Oregon State University - $12,335

Southern California Oak Mortality: Biology, Management, and Impact of the Goldspotted Oak Borer with an Emphasis on Solarization Treatment of Infested Firewood. Mary-Louise Flint, UC-Davis - $35,000; Steve Seybold, USDA-FS, PSW - $5,000

Adaptive management of *Phytophthora ramorum* in the Big Sur Ecoregion: links between sudden oak death and fire, David Rizzo, UC-Davis -$92,315 and Ross Meentemeyer, University of North Carolina Charlotte - $59,108

Remeasurement of *Phytophthora ramorum* plots in Sonoma County. Phytosphere Research - $3,700

Phytophthora ramorum canker (sudden oak death) in coast live oak and tanoak: factors affecting disease development and long-term effects of disease on stand conditions - Phytosphere Research - $41,760

Funding from external sources in 2009

The Midpeninsula Regional Open Space District provided funds for "Variation in Tanoak's Resistance to *Phytophthora ramorum*" - $60,000 over 3 years

The San Francisco Public Utilities Commission (SFPUC) provided funds for "An experimental management project to protect against the sudden oak death pathogen on the SFPUC Peninsula Watershed" - $125,000