

MURDER MOST FUNGAL

Researchers have turned up an important suspect in the case of “sudden oak death syndrome,” a mysterious affliction that has caused the death of thousands of oak trees along the California coast. The suspect, a previously unknown species of fungus in the genus *Phytophthora*, has a distinctly bad pedigree: Its relatives are implicated in the famous Irish potato famine of the 1840s and the recent deaths of Port Orford cedars in the U.S. Pacific Northwest, eucalyptus trees in Australia, and oaks in Mexico, Spain, and Portugal. The pathogen is believed to enter a tree through its bark and, once inside, to produce enzymes that dissolve the outer (or dead) and inner (or living) layers of the bark. As the disease progresses, the tree becomes weak and vulnerable to insects and other fungi that will finish it off. A team headed by David Rizzo, a plant pathologist at the University of California, Davis, is studying the pathogen, but so far the team has more questions than answers. No one knows, for instance, whether the pathogen is exotic or a native species that has suddenly become virulent or found itself in a favorable ecological position. Nor can experts say much about its probable spread to other areas or species of tree. (Concerns have been raised, however, because one of the coastal trees affected—the black oak—is common at the middle and higher elevations of the Sierra Nevada, where Yosemite Nation-

al Park is located.) Worst of all, researchers are uncertain exactly how the pathogen spreads. But because it produces spores that are easily transported, Rizzo and his team are urging people to clean their tires, shoes, and pets’ feet before leaving affected areas and to not take firewood and soil out of these areas. Foresters are especially anxious about the situation because they recall the devastating effects of two earlier infestations: Dutch elm disease and chestnut blight.

—University of California, Davis, press release, July 31; *Science News*, August 5; *Environment Writer*, September. (Robert Nicholson)

INCREASING RHINOS

Although people are not complaining about the overpopulation of rhinoceroses the way people in southern Africa are about the high number of elephants (see “Birth Control for Elephants” on page 7), they are celebrating the growing numbers of two subspecies of black and white rhinos in the wild. According to the latest estimates by the World Conservation Union’s (IUCN) African Rhino Specialist Group, there are more rhinos now than at any time since the early 1980s. In 1999, the number of African rhinos in the wild was more than 13,000—up from 8,300 in 1992. The southern white rhino accounts for most of the increase. Numbers of this subspecies have grown from less than 100

in 1895 to more than 10,300 in 1999 (94 percent of which are in South Africa). There has also been a significant increase in continental black rhinos (up from 2,450 in 1992 to more than 2,700 in 1999). The stabilization and restoration of rhino populations are, in large part, the result of conservation efforts involving government agencies, local communities, nongovernmental organizations, and private landowners in such countries as South Africa, Namibia, Zimbabwe, Kenya, Swaziland, and Tanzania. Although the increase in southern white rhinos and continental black rhinos in the wild is encouraging, the future of many other subspecies, including the western black rhino and the northern white rhino, look bleak. Martin Brooks, chairman of IUCN’s African Rhino Specialist Group, wants to maintain conservation efforts. He says, “Even though overall numbers are positive, there is no room for complacency. Numbers of two of the six African rhino subspecies remain very low, and invasions of private land in

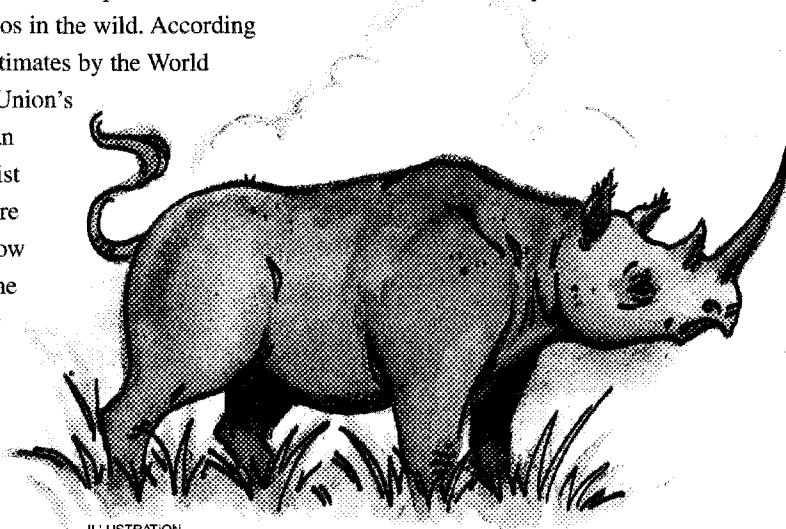


ILLUSTRATION
BY CHRIS RENAUD

Zimbabwe by war veterans and squatters currently pose a threat to several significant populations.” Rhinos are threatened by poachers who want to sell

the horns for use in traditional Chinese medicine and decorative dagger handles in the Middle East.

—World Wildlife Fund press release, August 7. (K.P.)

BRINGING IN THE GREEN

Many large companies are finding that being environmentally compliant increases their stock worth and makes it easier to get loans and insurance, according to L. Murphy Smith, an accounting professor at Texas A & M University who studies environmental auditing. Contrary to the popular belief that having an environmental program costs too much money, firms with stronger waste policies tend to become more competitive and attractive to the public. Rigorous environmental assessments ensure that accidents are avoided and also prepare companies for coming regulations. In addition, the U.S. Environmental Protection Agency's 1995 audit policy created an economic incentive for self-auditing. These internal audits bring people from different plants and areas together, leading to enhanced exchange of information and ideas, which result in overall system improvements, explains Carl Wirdak, Occidental Petroleum's director of environmental affairs.

—*Natural Business Lohas Journal*, July/August. (E.F.)

GRAINS OF WISDOM

One of the largest agricultural experiments ever conducted confirms researchers' long-held belief that growing different strains of a crop side by side will increase productivity and reduce losses to disease. The experiment is headed by Youyong Zhu, a

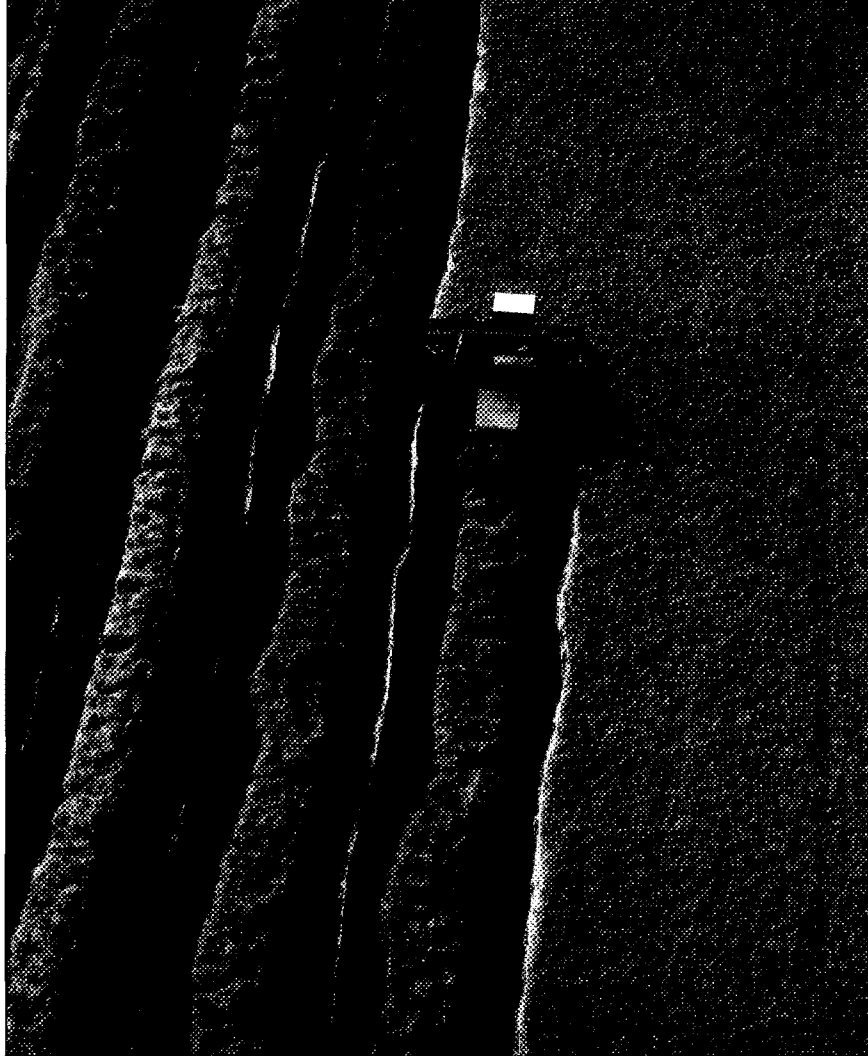
plant pathologist at Yunnan Agricultural University in China. Zhu and his colleagues have enlisted tens of thousands of Chinese farmers in the effort, which involves sowing some plots with a special mixture of two rice strains: the standard strain, which is highly vulnerable to rice blast fungus, and a less valuable but blast-resistant strain. The results to date have been impressive. Yields have doubled on the mixed-strain plots, and farmers have been able to avoid using chemical fungicides to control the blast. The logic behind planting the two different strains is simple: Rice blast spreads by airborne spores, so putting resistant plants in their path creates a natural barrier. The experiment has obvious implications for the cultivation of important grains such as rice. In addition, some researchers

say that it offers valuable lessons for organic agriculture, where planting single strains tends to be the norm. It also highlights the need to maintain genetic diversity in the wild.

—*New York Times*, August 22. (Robert Nicholson)

MISSING THE MARK

Although fully automated garbage and recycling trucks reduce labor costs, work-related injuries, and worker compensation costs, they also tend to leave more litter on the streets than had been there before the trash pick-up. Stephen Bissonnette, a student intern at the Florida Center for Solid and Hazardous Waste Management, surveyed a 104-home subdivision of Gainesville, Florida, three times on trash days over



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