Speaker: Carl Pope

Executive Director, The Sierra Club

Carl Pope was appointed Executive Director of the Sierra Club, America's oldest and largest grassroots environmental organization, in 1992. A veteran leader in the environmental movement, Mr. Pope has been with the Sierra Club for the past 20 years. In that time, he served as Associate Conservation Director, Political Director and Conservation Director.

In addition to his work with the Sierra Club, Mr. Pope has had a very distinguished record of environmental activism and leadership. He has served on the Boards of the California League of Conservation Voters, Public Voice, National Clean Air Coalition, California Common Cause, Public Interest Economics, Inc., and Zero Population Growth. Mr. Pope was also Executive Director of the California League of Conservation Voters and the Political Director of Zero Population Growth.

Among his major accomplishments, Mr. Pope coauthored California Proposition 65, the Safe Drinking Water and Toxic initiative of 1986. He has written widely for magazines in the environmental field and is the author of Sahib, An American Misadventure in India, and the coauthor of Hazardous Waste in America.

Mr. Pope graduated summa cum laude from Harvard College in 1967. He then spent two years as a volunteer with the Peace Corps in Barhi Barhi, India. He now lives with his family in Berkeley, California.

Statement

The farmer in the fable had a goose that laid golden eggs. Organic farmers have just such a miraculous creature in the form of the humble, soil-dwelling bacteria called *Bacillus thuringiensis*, or Bt, which makes its way in the world by emitting a toxin that kills insects. This makes Bt a boon to organic farmers, who spray their crops with it at times of peak caterpillar or insect infestation. In the fable, the greedy farmer kills the goose. Monsanto Corporation is threatening to do the same to Bt.

Monsanto has managed to insert Bt's toxic gene into potatoes, corn, cotton, and other crops, making them deadly to munching bugs. Everyone knows that sooner or later a mutant Colorado potato beetle will eat a Monsanto Bt potato and survive to reproduce; a new race of Bt-resistant insects will emerge, and the utility of the bacteria to humankind will end. (Use of Bt by organic farmers doesn't carry this threat because of the sporadic nature of the application.) Monsanto concedes that even if every farmer were to follow its suggestion to plant a "refuge" of regular potatoes next to the bioengineered patch to slow the evolution of resistant bugs, in 30 years Bt will be finished as an organic pesticide.

As for consumers, no one knows whether foods whose cells carry the gene for a bacterial toxin are safe staples for a human diet. According to The New York Times Magazine, the question is likely to remain unanswered because the Food and Drug Administration, which regulates food, thinks the bioengineered potato is actually a pesticide, and the EPA, which regulates pesticides, considers it a food. This suits Monsanto just fine. "Monsanto should not have to vouchsafe the safety of biotech food," spokesman Phil Angell told the Times. "Our interest is in selling as much of it as possible. Assuring its safety is the FDA's job."

Monsanto has even more far-reaching plans for the future of farming. One of its new acquisitions is a company whose main asset is a bioengineering technology called the "Terminator," which may be able to prevent seeds from reproducing. By building the Terminator gene into its rice and soybeans, Monsanto could derail the age-old agricultural practice of saving seed for the next season, leaving farmers completely dependent on its product. The Terminator would also relieve Monsanto of the need to hire a corps of Pinkerton investigators to apprehend farmers who reuse its seeds. (Monsanto has set up a toll-free number to

encourage farmers to inform on their neighbors, and has already filed suit against more than 500 farmers for replanting seeds.) Monsanto's unlikely partner in this scheme to enrich itself at the expense of farmers? The U.S. Department of Agriculture, which helped to develop Terminator technology in the first place.

The Terminator and Bt potato are sadly characteristic of agricultural biotechnology in general. Some companies are engineering plant varieties to be resistant to the herbicides they sell, encouraging the use of even greater quantities of chemical poisons. Others are bold enough to claim ownership of natural genetic qualities of plants that have been in use for centuries. W. R. Grace-the corporation whose defense of polluting practices inspired the book and movie A Civil Action-made a serious attempt to patent commercial applications of the neem tree, an Indian species that has been used for thousands of years by peasant families for medicinal and antibacterial purposes.

Of course, the common heritage of European peasants was appropriated long ago when the common pastures, fields, and woods around many communities in 16th- century England were fenced and privatized. The Times compares the effect of the Terminator to enclosure: "It will allow companies like Monsanto to privatize one of the last great commons in nature-the genetics of the crop plants that civilization has developed over the past 10,000 years." Agricultural biotechnology takes the naturally evolved, common genetic inheritance of the biosphere, chops it up, and sells selected patented bits in new bottles-sometimes with very nasty side effects. The problem is not necessarily agricultural biotechnology itself, although like any pioneering technology, the consequences of its application may not be known to science for many years. (After all, DDT was initially hailed as a miracle of progress.) The problem is that it is being deployed by profit-making companies using patent laws to privatize the world's gene pool. Making a contribution to agriculture is only a secondary goal of Monsanto's new technology; first and foremost is the enrichment of the shareholders, no matter what the effect on the rest of the world.

It doesn't have to be this way. This is not how Luther Burbank did his work, nor how the publicly accountable universities and international research centers developed the strains that led to the green revolution, which helped increase crop yields around the world. (True, the green revolution's reliance on chemicals had devastating environmental effects, but at least its intention was to feed more people. The sole focus of the biotech revolution is higher profits.) Agricultural

science used to be pursued for public benefit, and the idea of a Terminator gene would have struck its practitioners as monstrous.

Biotechnology can offer powerful solutions to deep problems in medicine. But its agricultural applications-especially in the hands of profit-driven, unaccountable, patent-protected corporations-promise ecological catastrophe. Instead of launching the new millennium by destroying the common heritage of the past, we should guard that legacy as a treasure.