

AIR POLLUTION DEMONSTRATION

Twin greenhouses present evidence

The Los Angeles State and County Arboretum just reopened demonstration greenhouses where plants illustrate damage caused by air pollution. From April through October visitors to the Arboretum can walk through the twin greenhouses. In one greenhouse the air is pure, 90 percent of the contaminants have been removed by charcoal filters. The other greenhouse contains the same, often unhealthful, air that visitors breathe.

Effects of air pollution concern visitors from around the world, since the damages of air pollution are not limited to Southern California. Pollution affects humans directly by damaging their health and indirectly by cutting into the food supply; damaged plants not only produce less vibrant fruits, but their yields are diminished.

C. Ray Thompson and Gerrit Kats from the University of California Riverside have served as consultants on the project since it began in 1986.

"The greenhouses are educational displays showing how smog damage varies among plants," says Arboretum superintendent John Provine. "They are not meant to tell people what plants to grow." The Arboretum greenhouses are used to display effects of air pollution.

Gloria Shams, Arboretum nurseryworker, chooses commonly grown plants for the greenhouses. Camel-

lias, miniature roses and pansies show little smog damage she says. "On the other hand, petunias suffer most," Ms. Shams explained. "Damage to the leaves and flowers is usually visible within a couple of weeks after a smog episode."

Smog also affects vegetables. Celery, carrots, parsley, beans, corn and tomatoes have all shown damage in the past. Squash was one of the few vegetables that wasn't affected.

Bermudagrass, succulents and trees such as birches, maples and oaks seem able to withstand smog. Other resistant plants are oleanders, geraniums, junipers and hibiscuses.

In 1988 the California State Air Resources Board renewed their grant, providing a digital readout screen to display numerical evidence of pollution levels registered inside the greenhouse. This year, a new Macintosh computer screen attached to the smog monitor shows this information in color graphics.

Workers in the greenhouse augment the displays by pointing out details on smog damaged plants. They also encourage visitors to fill out a questionnaire about additions they would like to see. Beside photographic evidence of smog damage, the interpretive center also offers educational displays and brochures to visitors.



Older leaf of bean plant exhibits most damage.



Ozone killed cells in petunia leaves, leaving white patches.



1989. "Air pollution demonstration: twin greenhouses present evidence."
*Arboreta and botanic gardens : a publication of the Los Angeles County
Department of Arboreta and Botanic Gardens* 1(1), 5.

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