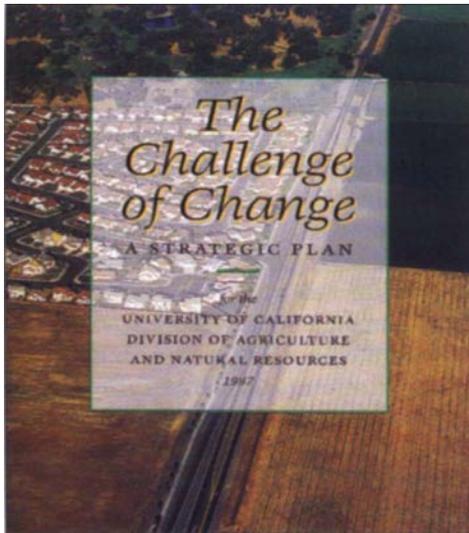


sin have created an exceptional baseline of scientific data. It extends over a long time and provides critical knowledge to both understand the past and evaluate future changes. Second, the society here in the basin has gone through years of effort and discussion to clearly define their common goals. They have in the process also gained an understanding of the basin as an ecosystem of many interacting parts in which environmental quality and human quality of life are united."

Restoration efforts in the basin are focused not only on keeping the great variety of plant and animal species, but also the patterns and processes over a large landscape, Erman said.



### ■ Strategic plan published

The Division of Agriculture and Natural Resources (DANR) has published its new strategic plan, "The Challenge of Change."

"DANR's strategic plan provides a framework for making critical decisions at all levels of the Division regarding how we spend our money and our time and how we organize ourselves and conduct our work," DANR vice president Reg Gomes says in the report's preface.

To obtain a copy of the 24-page document, call the Office of Program Planning and Evaluation at (510) 987-0066.

### ■ New strain of old disease threatens mushrooms

Walking along the tiers of beds and trays in mushroom houses this spring, Santa Clara County growers found green mold stretched across empty patches where the round, white tops of button mushrooms should have been.

A new strain of an old disease is threatening Santa Clara County's number one agricultural product. Button mushrooms, *Agaricus bisporus* — valued at \$30 million to \$35 million a year for the county — have been infected with *Trichoderma harzianum* Th-4, according to Santa Clara County farm advisor María de la Fuente. She anticipates *T. harzianum* Th-4 will reduce this year's mushroom yields by 25%.

*T. harzianum* Th-4, is a very aggressive new strain of an old disease caused by a fungus. Green mold, the old disease, spreads slowly and is usually associated with improperly processed compost. The new strain has appeared even in properly processed compost and proven to be severe and fast-spreading in the mushroom industry in Canada and Pennsylvania, says de la Fuente. Pennsylvania's yields fell nearly 50% during its first year of infection, she said.

In early April, a Santa Clara County grower noticed the rapidly spreading mold and called de la Fuente. CDFA's Plant Pest Diagnostic Center in Sacramento isolated the aggressive strain from the samples she sent. The results were confirmed by highly specific lab tests at two other internationally recognized institutions. By June, the grower had suffered a 40% yield loss.

"Recently, I sampled several farms in the Santa Clara County area, others in Monterey, Santa Cruz and San Mateo counties, and found that they all have the disease," she says.

After 2 to 5 weeks of an apparently normal start, sections of a tray can turn green with *Trichoderma* spores. Initially a few isolated tray sections are infected, but soon it becomes epidemic, commonly infecting 30% of a mushroom house, and sometimes making cultivation cycles of the entire house unprofitable.

The problem can be exacerbated by mites, another common pest, but they aren't the only ones spreading *Trichoderma* spores. Wind-carried dust particles, insects, contaminated hands, clothing and tools of workers can contribute to the spread of spores.



Mushroom growers are covering patches of *T. harzianum* Th-4 with salt to stop the spread of the mold.

María de la Fuente