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Home & Design

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*Longing to dig into the earth and plant something? Some gardeners are way ahead.*

# Cyberspring has sprung, in more than a virtual sense

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**I**n this garden, it is already spring.

In January, gardeners from around the globe scooped out pockets of the rich earth, placed seeds of radish, tenderly tapped down the soil and added life-sustaining water.

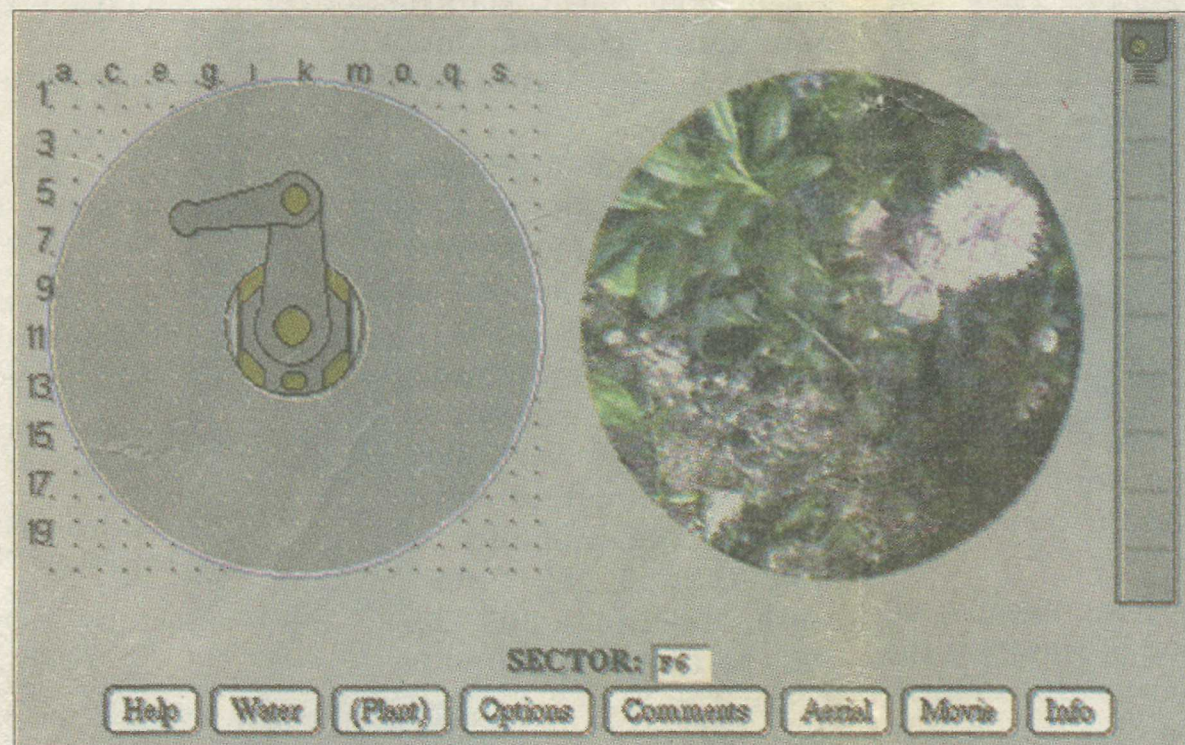
Now the seeds have sprouted by the dozens. The harvest should be bountiful.

Where in the world is this well-kept secret of a garden?

Cyberspace.

But this isn't some ether land of pixels. There is soil, real soil, and there is water, real water, and seeds that germinate into real radishes, real phlox and all sorts of other real plants.

"I'm missing my garden immensely," said Nancy Gilbert, 33, an Internet project assistant for Agriculture Canada who lives in Ottawa. Her backyard, she said, has been under a sheet of snow since November. While she awaits spring, she has turned to the



**Cybergardeners and visitors can choose** among the options at the garden gate, so to speak, on the Web site. A robotic arm does the actual planting and care.

greener grounds of the so-called Tele-Garden for sun and solace.

"I always go in every day to water my plant," said Gilbert, who has planted a pansy seed in the garden.

The circular plot — about six feet in diameter — is in a lab at Powell Hall on the campus of the University of Southern California, and it is accessible by way of the World Wide Web.

With the help of a robotic arm, cybergardeners such as Gilbert can plant and care

for a bit of green in Los Angeles from anywhere in the world. The system allows cybergardeners who have accumulated a certain number of site hits — activity online — to manipulate the industrial robot arm to plant a seed. It also can be instructed to water a particular spot or to show a closeup of an area.

Since it was started last summer, the site has attracted more than 5,300 gardeners, and an additional 51,755 have entered the

See **CYBERGARDENING** on E7



**CYBERGARDENING** from E1

site as guests, who cannot plant seeds but can tour the garden.

"We see it as a science and art project," said Ken Goldberg, an assistant professor in the industrial engineering and operations research department of the University of California at Berkeley. (Goldberg, who grew up in Bethlehem, Pa., and attended the University of Pennsylvania, is on leave from USC, where he began the project.)

It may seem a little odd to garden via computer and robot, at least to any gardener worth his or her seeds. After all, the pleasure comes from taking spade to soil, from stopping to, well, smell the roses, not from clicking a mouse and staring at a picture on a computer screen.

"This is not a substitute," Goldberg allowed. "But when you do water the [Tele-Garden] plant, you're actually watering a plant. It's not simulated. . . . It's real, it's tangible, even though your hands are not dirty."