CULTIVATE YOU LIOSPIOLO JUNE 2010

EVEALING THE MART AND SEXY HARLIZE THERON BEAT THE HEAT SIMPLE WAYS TO COOL **YOUR CROPS**

MYSTERIES OF MOROCCO AN EXOTIC FEAST AWAITS

SIZE MATTERS **GROW YOUR** HYDRO BIZ FAST

> BRICK FILMS MOVIEMAKING WITH LEGOS

CUCKOO FOR COCO COIR ADDS POP TO YOUR SOIL

> **IVIVA BASEBALL! MEXICO SHOWS** CLASSIC STYLE

HIP-HOP HEAVEN RAPPER CHUCK D GATHERS THE GREATS



OMPLIMENTARY TO ALL YDROPONICS GROWERS



FROM JAILHOUSE TO GREENHOUSE

HYDROPONIC GARDENS THRIVE THANKS TO UNLIKELY CARETAKERS: THE INCARCERATED

BY SARA BERNARD

DETENTION DEPUTY DEBRA TAYLOR lays it down for the inmates she supervises at the John E. Polk Correctional Facility in Sanford, Florida. "We can play this any way you want. I can be Detention Deputy Taylor and we'll run this like a jail, or I can be the garden lady and we'll run this like a greenhouse."

Most of the time, it's a greenhouse—with 18 4-x-10-foot tables of hydroponic lettuce and 200 tomato plants—all built, maintained, and tended by the inmates.

Hydroponics, it turns out, is an allaround win for prisons—and for prisoners. Soil-free gardens have economic benefits for prison facilities, ecological benefits for the planet, and myriad benefits for the inmates, who receive vocational and technical training through the work and, in many cases, undergo serious personal transformation.

Although the numbers aren't huge yet, there are a few highly successful prisonbased hydroponics programs, providing food, education, and steps toward a green future. Taylor, a detention officer with the Seminole County Sheriff's Office, doubles as horticulture supervisor at the correctional facility, where only female inmates work in the hydroponic greenhouse, which has been in place since 1996. At the Otisville Correctional Facility in Otisville, New York, horticulture instructor Bob Hansen leads the hydroponic greenhouse, around since 2005, as well as other vocational training programs such as landscaping and an 8,000-hour apprentice-ship in nursery management.

And at Rikers Island, one of the country's largest prisons—sandwiched between Queens and the Bronx in New York—applied scientist Philson Warner extended the Cornell University Cooperative Extension–New York City (CUCE-NYC) Hydroponics Learning Model program to the prison's two high schools in 2007 in an effort to help teen inmates meet state requirements for high school graduation. Warner, founding director of CUCE Hydroponics (and creator of the nutrient drip







ABOVE: Detention Deputy Debra Taylor (right) checks papaya plants with Lance Osborne, a professor of entomology at the University of Florida's Institute of Food and Agricultural (IFA) Sciences.

flow technique some 25 years ago), says the program helps incarcerated teens learn biology, chemistry, math, and other subjects through a career-oriented, inquiry-based curriculum.

"But hydroponics is also interesting from a business standpoint," says Warner. "That's why it's so popular."

All the lettuce grown at the Seminole County correctional facility, for instance, goes to the inmates' plates—three tables of lettuce feed 900 inmates a salad. There have been drastic cutbacks across prison facilities in Florida, Taylor says, but thanks to the hydroponics garden at the Seminole County site, "we haven't had to cut out fresh produce." In return for their work, the women earn time off of their sentences, and all additional proceeds go to the facility's Inmate Welfare Fund, which provides necessities such as soap and uniforms.

The Seminole County facility also maintains a traditional garden and a "fish house" where inmates raise tilapia; they hope to eventually create an aquaponics system (a symbiotic setup wherein fish waste fertilizes the greens and the greens in turn clean the water for the fish). Taylor has run a pesticidefree facility for seven years; she controls pests primarily through the use of other pests. "I have a cucumber plant to attract the bad mites that my beneficial mites eat," she says. If stronger measures are called for, she may use organic-based products such as sulfur or baking soda. Even her growing media is biodegradable. She opted out of rockwool and grow bags for coconut husks and reusable pots (both cheaper and better for the environment).

Hansen, who has worked at the state correctional facility at Otisville for more than two decades, says they've experimented with bok choy, cucumbers, eggplant, and peppers, but not on the scale that they produce lettuce, which goes directly to the mess hall, where inmates enjoy fresh salads at least once a week. This harvest saves the facility an estimated \$1,500 to \$1,800 a year. Plus, he says, it's quick: from seed to salad in about 35 days. "We can produce a lot in a short period of time. That's a big advantage of hydroponics. It's a very controlled environment."

But for Hansen, the greatest benefit is for the inmates, who get to develop precise and applicable skills through their work—an aspect Warner takes care to emphasize, too. These programs provide green-collar job training for people who will need to reenter society with tools to survive, whether they're juvenile delinquents or hard-boiled cons.



The emotional effect of the gardening is not insignificant. After working for some time in the garden, "I've seen changes in people I can't explain," says Seminole County's Taylor. "They seem entirely different people. More relaxed, more calm, easier to get along with."

In the greenhouse, "if something goes wrong, things die," which is a big responsibility, Taylor notes. "If they see the lettuce is dead, they feel horrible, inconsolable. It means that much to them. They start to appreciate something they put all of themselves into, and to reflect that on the rest of their lives. So many come from such hard backgrounds. It's hard to trust; hard to put that edge down." But in the greenhouse, she says, it's more like, "relax and be yourself, and you'll be fine.

"The best thing for me," Taylor adds, "is to have someone say that work is no longer a dirty word-to hear them say, 'When I get out of here, I want to get a job and get my life together.' "

"Prisons are a really great hydroponics test kitchen," says Nalini Nadkarni, professor and forest ecologist at the Evergreen State College in Olympia, Washington, and co-director of the Sustainable Prisons Project. a collaboration between Evergreen and the Washington State Department of Corrections.



The project includes horticulture programs, beekeeping, and green-collar training for inmates at Cedar Creek Corrections Center and three other prisons in Washington, but Nadkarni aims to add hydroponics as soon as she can gather some expert advice. "There's a prison in every city in this country," she says. "It's a rich resource." @

ABOVE: Tending plants offers a respite from the rigors of retention and also provides practical green-collar job training.

