2008 Garden Crusader

Ed Bush of Baton Rouge, La.
Winner, Grand Prize

For LSU associate professor of horticulture Ed Bush, teaching college students about photosynthesis, plant genetics and native plants is all in a day's work. But teaching the same concepts to students in grades 3-12 is quite another story. Yet to his surprise, Ed hasn't found it to be as different as he expected.

"I grossly underestimated the capability of children," he said. "There is no doubt about it. Even sixth graders can understand complex scientific concepts, as long as we expect it of them."

Ed Bush has developed an innovative educational program called Coastal Roots, which teaches environmental stewardship by involving young students in the restoration of Louisiana's wetlands and coastal areas. Since 2001, the program has involved more than 2,000 students from 24 area schools. Almost 20,000 native tree seedlings and grass plugs have been planted—all of them grown in nurseries that Ed helped establish at each school.

"We thought the program out really carefully," he said. "We truly want to make the biggest impact both on the children and the environment."

To honor his role in the implementation of this innovative educational and environmental stewardship program in Louisiana, Gardener's Supply has presented Ed Bush with the Garden Crusader Grand Prize for 2008.

Coastal Roots

At Louisiana State University in Baton Rouge, Ed's specialty is growing nursery crops. He teaches undergraduate students and does research on commercial nursery crops.

In 2000, he was asked to be part of an exciting new educational program. The goal of the new program was to teach students in grades 3-12 about environmental stewardship and habitat restoration while actually helping to restore degraded wetlands and coastal areas.

"The degradation of wetland and coastal areas is a very serious problem in Louisiana," he said. And hurricanes Katrina and Rita have made the problem even worse. For example, an area north of New Orleans lost 80 percent of its woodlands to the surge and high winds of hurricane Rita, he said.

In order to restore these degraded wetlands and coastal areas, huge amounts of planting material are needed. Coastal Roots set out to involve schoolchildren in growing some of this plant material.
Ed developed a tree nursery that would work in schools. Each nursery is a 10 feet by 10 feet square and is surrounded by a fence to keep out dogs and vandals. The nursery includes an irrigation system that can be set with a timer, which is a very useful tool during school breaks.

Ed helps each school build its own nursery. Then the children plant and tend hundreds (or even thousands) of seedlings indigenous to the area, including Southern bald cypress, Southern wax myrtle, black mangrove, red mulberry, Spartina alterniflora grass and many more. It takes about six to eight months before the seedlings are ready to be planted in the field.

"The stewardship component of this program is important," he said. "To grow a tree, it's got to be nurtured. You've got to plant it and fertilize it and water it. When it is bigger, you need to pot it up and plant it appropriately so it will live."

Once the seedlings and grass plugs are ready to plant, the students take a field trip to the site of a "planting partner", which could be a state park, a wetland or a site affected by the hurricanes. "The students take dibbles and go out and actually plant the trees," he said.

The Coastal Roots program currently operates in 24 schools in 11 Louisiana parishes (counties). By the end of the year, Ed hopes to have 30 schools in the program. And next year, he is hoping to expand into northern Louisiana, Mississippi and beyond.

A Learning Community

Coastal Roots has taught schoolchildren about environmental restoration, and along the way it has also engaged lots of other learners.

Teachers incorporate the nursery and Coastal Roots into their curriculum. And students have taken the lead to teach other students about what they have learned. One group made short movie clips about how to care for the plants; another group did a rap song about scientific names.

"The university people, the planting partners, the teachers, the students, we are all learning from each other," he said. "This is a real learning community and we are proud of that. That is the highest level of learning, getting the teachers and the students learning from each other."

Ed has also seen that the program reaches many more students than he ever expected.

"This is a program that works for all academic levels. In fact, children who have difficulty in the classroom often excel in the field where it is more hands on," he said.

Ed grew up in New Orleans. As a result of Hurricane Katrina, his mother's house was
submerged in 12 feet of water for two weeks; she now lives with Ed and his family. He knows that improving the coastal habitat of Louisiana—and engaging people to take care of it—is vital to the future of his region. And children are the key.

"They can go to a higher level," he said. "But we need to ask them to go there."

Ed Bush with some of his student-gardeners.