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Starting with a few stems

By Jim Shelton , Register Staff



At the UConn Plant Science Research Farm in Storrs, assistant professor Julia Kuzovkina shows one of the domes formed by willows. (Peter Casolino/Register)

STORRS — Some day, when kids everywhere are playing in shady domes, dogs are romping through green tunnels and farmers are cleansing the soil with rows of leafy stems, they'll owe Julia Kuzovkina a debt of gratitude.

Kuzovkina, an assistant professor of horticulture at the University of Connecticut, is a one-woman warrior for willows. She's just waiting for her ideas to take root.

"It's coming," Kuzovkina explains, sitting at a picnic table at UConn's sprawling Plant Science Research Farm. "This is an emerging area of science that is only 10 or 12 years old, but it's very exciting. We need to introduce ecological structures to our landscapes, and I'm ready to start giving presentations. It's a powerful message."

Her pitch is simple. Kuzovkina believes more people should be growing willow plants — as pollution filters, as biofuel and as beautiful, playful "willow rooms" that enhance public and private spaces. She brings more than a dozen years of expertise to the idea, as a researcher at UConn and Ohio State University, and as the former curator of the willows collection at the Moscow Botanical Gardens in her native Russia.

"We know that willows can take up metal pollutants from the soil, including cadmium," Kuzovkina says. "The metals come up through the plant stems. We can harvest the stems, removing the metals from the ground. We have the possibility of cleansing soils with a plant that can be harvested and sold to the public."

And why would the public purchase 8-foot willow stems? For tunnels, domes and mazes, of course.

"In May and early June, you can push dormant willow stems into the ground, and in two weeks they start to root and grow," she says. "They're projects that are as easy or as complicated as you want."

This Willow Lady has big plans. Along with her scientific research into willows, Kuzovkina is working with Canadian artist Kim Vergil to design instruction kits for building domes and tunnels out of willow. A dome, for instance, takes 35 willow stems, each one about 8 feet long and inserted 8-12 inches into the ground. Kuzovkina expects to have designs and descriptions of several structures available online by the end of summer at www.plantscience.uconn.edu/kuzovkinacv.html.

She refined the designs and tested them here at the UConn research farm. As she hops into a small farm vehicle and drives to one of two plots devoted to the project, she talks about why a homeowner or school would want to build a willow room.

"They're very pleasant to be inside," she says. "They provide shade, and they are a natural sound barrier. They're perfect for gardens."

At the first site, there is a circular maze of willow stems, a dome, a tunnel and an arbor. All of them are dark green, with leaves that have filled in around the outside of each structure.

"We planted this two years ago," Kuzovkina notes. "They're fun projects, with almost immediate results. You spend two hours and you have a dome. A month later, it's grown in."

UConn horticulturist Greg Tormey has just finished some pruning here, as his dog, Gordie, plays in the structures. "I'll tell you, the shade is very nice in the tunnel," Tormey says. "Gordie was enjoying it."

Of course, as nice as this testing ground for willows is, Kuzovkina says it won't do any good until farmers start growing willow stems and selling them to the public. These willow stems at UConn, for instance, came from researchers in New York.

That's why Kuzovkina is spending part of her time spreading the word about willows to farmers. She says a small willow crop can grow on fringe areas of a farm, requiring little maintenance and drawing out pollutants from farm equipment and fertilizers.

After a quick tour, Kuzovkina drives to her second grouping of willow rooms. She passes long rows of willows being grown for biofuel research along the way.

"This is our newer garden," she says, stopping the vehicle. Here there are two domes, two tunnels and a pair of willow teepees — all surrounded by marigolds, geraniums, zinnias, petunias and small benches.

"I've always liked willows," Kuzovkina says. "After a long winter, when it's spring but it's still cold outside, willows give you such hope."

Jim Shelton can be reached at (203) 789-5664 or jshelton@nhregister.com.