

Grower turns to tank technology for irrigation

By GAIL OBERST
For the Capital Press

DALLAS, Ore. — Bogdan Caceu searched the world to solve an irrigation problem on his farm.

It makes sense that Caceu would look for solutions abroad. His father's family had once owned large orchards in Transylvania, a region of Romania, that were confiscated by the communists in the 1940s, before Caceu was born.

"You hear that story as a kid, how we lost these beautiful orchards to this violent regime. Farming has been in the back of my mind for a long time," Caceu said.

His father was an engineer,



Courtesy of Michelle Davis

Construction of the water storage tank on a small farm near Dallas, Ore., took one day, a few friends and common tools.

and Caceu was trained to be a lawyer. But with a dream to farm, in 2009 he purchased a plot of land southwest of Dallas, on the north fork of

Ash Creek, which eventually flows into the Willamette River at Independence. Despite inexperience, he connected with experts in the area who

On the cover

On the cover is a photo of the cover used on the water storage tank Bogdan Caceu built on his Dallas, Ore., farm.

have helped him turn 45 acres of scotch broom and blackberries into La Creole Orchards. The work in progress includes olives and truffle-inoculated oak trees, among other crops.

From the beginning, Caceu was faced with irrigation woes common to the Northwest. Even after drilling three wells, he was only able to draw 3 to 4 gallons per minute — far too little to keep thirsty young plants hydrated. Devoted to inexpensive and environmentally safe methods, he looked for tanks in which to save his well water during the rainy season, so he could apply it in the dry summer. Unfortunately, many storage tanks, geared for larger farms and industries, were unwieldy and expensive.

Caceu was undeterred. He searched the world's water conservation companies and

eventually put together a pilot project to build a simple, inexpensive water storage system that holds 35,000 gallons.

"It doesn't get us through the entire season, but I wanted to see how inexpensive and easy to build it could be," Caceu said.

The system includes Netherlands-based BuWa-Tec pre-fabricated tanks that can be built in place in a day. Concentric circles of corrugated steel are quickly bolted together and a liner is installed. A cover keeps water cool, algae-free, and reduces evaporation to a minimum — anywhere between 15 and 30 percent can be lost from an uncovered tank due to evaporation, so covers are important.

But the mesh-fabric cover the tank came with must be removed occasionally to avoid collapse due to snow and ice. Instead of that work-intensive option, Caceu settled on 7-inch-wide floating plastic hexagons that cover the surface, made by Denmark-based Hexa-Cover. Caceu estimated the entire

system cost less than \$16,000 and could be put together by a few people using simple tools.

To round out the water storage project, Caceu installed a solar-powered pumping system from the Danish company Grundfos. The solar panels run the pumps in the wells using less power than a light bulb and operate even on cloudy days.

"We get to start the first day of irrigation season with a full tank," said Caceu.

Caceu's other efforts to conserve water on his land include a drip and micro-spray system that delivers precise water and nutrients without any runoff. Also in the offing are projects related to the Conservation Reserve Program, a voluntary incentive program for farmers, managed by federal and state agencies.

A nod to his innovation, Caceu is the winner of Polk Soil and Water Conservation District's 2015 Conservation Award. He serves as executive director of the Olive Growers of Oregon, the nonprofit that represents the pioneering olive growers in the state.



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W17-2/#7