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A N D I N D E P E N D E N T

Duo explores food possibilities in native grass

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Traditional Native American food sources could soon be taking root in more area farms and backyard gardens, as botanist Dr. Richard Felger and orchardist Gregg Dugan pursue their project to explore the potential of these drought-tolerant crops to feed a warming world.

The two work to distribute seed, seedlings and plants, primarily Apache red grass and giant sacaton, which yield grains (seeds) of higher nutritional quality than wheat. Protein content of the grasses is "50 to 75 percent higher" than the traditional wheat crop.

They are working to get as many plants into the ground as soon as possible to take advantage of the summer monsoon rains. The short-term goal is to increase the seed stock for future plantings. Currently plants are going into about a half dozen locations from Silver City to Cliff.

The grasses produce much more

efficiently because, as arid-land perennials, they can reproduce themselves without human intervention, and require no tilling and limited water to grow. Dugan notes that "10 percent of the world economy goes to tilling." Both plants grow wild in the area and into the higher elevations nearby, Felger said. "And they compete successfully" with less desirable weeds, Dugan said.

The idea is to "fit the crop to the land, not the land to the crop," a quote Dugan attributes to J. Russell Smith, author of the 1929 book "Tree Crops, A Permanent Agriculture."

"We want resilient crops with high yields," Felger said. Because Grant County has been designated as a food desert, interest in more resilient crops that can be grown locally has been increasing, Dugan added.

The local team is particularly interested in the Apache red grass — *panicum bulbosum* — which they agree is

Grass...

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the tastier grain, a millet similar to teff, and easiest to harvest. Local cooks have been experimenting with the grains, making chips, muffins, tortillas, pancakes and breads. They also recruited five local restaurateurs and the Silver City Food Co-op, who have each committed to using the grain in some of their offerings.

Felger actually came up with the name Apache red grass, preferring it to the common name "bulb panic grass," to honor the Native Americans who used it and to remove the other connotation of "panic" from a food crop. "It doesn't sound very good on a menu," he noted.

He contacted Apache tribes, speaking with their plant experts about the proposed change, and was told that the traditional Apache name for the plant loosely translated to "red grass."

The grass grows "three to five feet tall, and it's permanent," Felger said. He and Dugan agreed it is attractive enough to make it a good landscaping plant. "Civilization is based on grasses. The whole world runs on grasses and legumes," Felger said. In the past, these were "primarily annual crops like wheat, corn, barley and rice," requiring replanting each year.

Dugan and Felger taught a workshop at the 2015 New Mexico Organic Farmers Conference, and were pleased with how their work was received. The conventional wisdom calls for new crops to be "industry driven," Felger said, adding that in past years at such conferences, "it felt like we were talking to ourselves."

But he described it as a "revelation" to find that this year, the "organic farmers in New Mexico are mostly young, and are not only enthusiastic but capable and interested" in growing the "new" crops.

"They are unafraid, innovative and smart," Felger said. "And they get it. They're going to make it happen."

The giant sacaton, as the name implies, grows even larger than

the red grass, and ranges across the arid Southwestern U.S. Felger suggests it as a landscape replacement for pampas grass, since it thrives here and could provide food. When writers of the Old West described "grass as high as a horse's belly, that was sacaton," Felger said.

He noted that the grass is sometimes used commercially as a windbreak for chile fields, and for general revegetation, but added, "It's a winner as a food crop," even more drought-resistant and "tougher" than the red grass. Even so, he cautions that "both will need some irrigation to get started."

Dugan notes that the two grasses are "non-shattering," meaning the seeds are produced all at once and stay on the plant. That quality means they could be harvested mechanically.

Local farmers participating in the project include Doug Smith and Joe Runyan. Rob Connoley of The Curious Kumquat is also growing the new grains for use at his restaurant. Several plants are being grown at The Volunteer Center's Commons building as a demonstration, and some members of the High Desert Organic Gardeners group (HiDog) are planting in backyards and on larger properties. Little Toad Creek Brewery and Distillery is also interested in the possibilities.

Felger said his current goal is to produce a book on the subject this year. "To have enough information so that people can carry it on. It's not possible for one person to bring a major crop into production," but "to present the idea and be the catalysts — yes," he said.

Both men also predict that mesquite will be a major world crop within 20 years. In addition to the red grass and sacaton, the two are promoting the growing of wild sunflowers, wild tarragon and native peppers.

Felger is associated with the University of Arizona Herbarium, while Dugan is a professional gardener, orchardist and nurseryman. A grant from the New Mexico Department of Agriculture is supporting the project.