

## Plant Geneticist Makes Carrot Earrings

Compliment Shelby Ellison on her colorful earrings and you may get a free lesson on plant genetics.

"I'm a big fan of vegetable jewelry. People are normally shocked to find out my earrings are carrots," laughs the University of Wisconsin-Madison postdoctoral researcher in plant genetics. "My research is understanding the genetics behind the pigment in carrots so it's directly related."

As she sliced colorful carrots from around the world, she saw the beauty of the bulls-eye patterns in reds, yellows, oranges and purples. Her original idea was to make cross-sectional slices, dry them and make Christmas ornaments.

"I slice them between 1/8 and 1/4 in. thick in diameters from 1/2 to 3 in. I like big, flashy earrings," she says. "I have an industrial dryer to dry them. Then I paint them with an acrylic lacquer to keep the moisture out and help the pigment last

longer. They are virtually weightless."

After making earrings for coworkers, friends and family, she attended an art show and started selling them for \$10 to \$20/pair. She has also made earrings from beets and potatoes.

"It's a good way to talk about my research in a more fun environment," Ellison says. "Once we identify the genes controlling important pigments, we can make improvements such as increasing the nutritional benefits. That's the goal of the research."

Carrots were previously yellow, she notes, but then a naturally occurring mutation caused them to accumulate beta-carotene and turn orange, which some growers preferred. Orange carrots are also nutritionally better as they are high in carotenoids that the body converts into Vitamin A. Purple carrots are high in anthocyanins, which are a good source of antioxidants.

Ellison takes orders for earrings through



**Ellison makes big, flashy earrings out of cross-sectional slices of purple carrots.**

email, but notes DIY home gardeners can make earrings with a conventional dehydrator.



**Carrots are sliced, dried, and then painted with an acrylic lacquer to keep moisture out and help the pigment last longer.**



Photos courtesy Stephanie Stegeman Photography

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## Farmer's Sideline Job Requires Death-Defying Maneuvers

Erik Edgren might be the only farmer in America whose side occupation is entertaining air show visitors with airplane aerobatics.

"I started flying when I was 6, sitting on my dad's lap," Edgren says. "I was ready to solo when I was 8, riding in a custom-made seat with control extensions so I could fly the plane myself." In the ensuing 35 years, Edgren has flown more than 150 makes and models of airplanes. He's worked as a flight instructor, as a corporate pilot, he's trained pilots for a combat school, and entertained thousands of people with carefully calculated rolls, loops and smoke swirls. Since 1997, he's also been a fulltime Iowa farmer.

"I grew up on a farm and had absolutely no interest in that occupation as a youngster," Edgren says. "My dad was a farmer and a pilot, but flying was my passion. I really looked up to Dick Willetts, an Iowa flying legend who had his own show. I rode with him when I was 13 and was hooked."

After graduating from high school Edgren briefly attended college, then concentrated on flying. He bought an old Cessna 310, rebuilt the motor with a friend and earned flight ratings. He taught flying in the Midwest and later was a co-pilot on a corporate Learjet in Michigan. In 1996 he returned to Iowa to take over the family farm. Edgren says the decision to return was easy. "I gave up earning potential for quality of life. The divorce rate among airline pilots is staggering. I always wanted a family and there's no better place to have a family than on a farm." He met his wife Stephanie in 1997 and they now live with their son John on the farm that's been a part of their extended family since before the Homestead Act.

"Farming is my job and family legacy, and I really enjoy it, but flying is my passion," says Edgren, who logs more than 100 hrs. a year, most of them in the seat of his brilliant red 1939 Taylorcraft fixed wing airplane. It's such a striking and memorable plane that a model airplane company sells a replica.

He participates in air shows around the Midwest each summer as a character called "Hobie Washburn", a slightly unsteady



**Erik Edgren's sideline business is entertaining air show visitors with airplane aerobatics.**

performer who wears a tropical shirt, carries a large margarita glass and wears a beach-comber hat. "People really don't know what to think when they see me crawl into the plane, and they're even more concerned when I perform an unusual takeoff, sometimes on one wheel with a wing almost touching the ground," says Edgren with a laugh. "My show is part humor and part acrobatics, and it's all planned out."

Edgren has his surface level waiver so he can perform inverted maneuvers at ground level, which is a crowd-pleasing act. He builds a sequence of maneuvers into each show, with some gaining speed and energy, and others losing energy, like a mid-air stall in the midst of a plume of white smoke.

Edgren's Taylorcraft airplane, which has 30-ft. wings, weighs just 830 lbs. and carries only 24 gal. of fuel. It's capable of flying two people, but in his show setup he sits in the center, steering with a stick rather than a wheel. The small 85 hp engine can push the plane to speeds of 125 mph, and up to 160 mph in dives, which is more than enough to thrill airshow crowds.

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**New open-pollinated organic sweet corn tastes great and is disease-resistant.**

## Open-Pollinated Sweet Corn

If you try "Who Gets Kissed?" sweet corn and like the way it tastes, you can let a few stalks mature and save the seed for next year. It has early season vigor, stands well, tastes great and is disease-resistant. The new open-pollinated sweet corn (first featured in Vol. 37, No. 5) is now on the market. Growers can order it through High Mowing Organic Seeds, but if they save seed, they'll never have to buy it again.

The Organic Seed Alliance, which helped develop the variety with Martin Diffley, Bill Tracy, and the University of Wisconsin, helps protect public access to seed. Kristina Hubbard, OSA, says, "When new varieties are released, farmers can save seeds from their harvests, and researchers are free to use these varieties in ongoing plant breeding work, variety trial evaluations and other seed research."

OSA works with farmer/plant breeder partnerships. In the case of Who Gets Kissed?, organic grower Diffley was frustrated with organic sweet corn that lacked vigor and tolerance to cool, wet soils common to Minnesota springs. He began working with 2 of Tracy's lines of sweet corn to select for one with early vigor, standability and eating qualities. OSA provided some funding and research assistance.

"We were leaning toward an early maturing line with quite high quality, but in severe wind it went flat, so we couldn't release that to farmers," explains Tracy. "The second line didn't have as much quality, but stood up better and was more resistant to disease. We concentrated on it."

For 7 years the research team selected for the best. They looked for tenderness, flavor (sweetness and corn aromas) and mouth texture or creaminess. They literally bit into raw sweet corn to evaluate the selected lines with a final test in 2014.

"We harvested a couple hundred ears about 21 days after pollination and bit into them. Good was defined as wanting to take a second bite," explains Tracy. "We set 75 percent 'good' ears as the minimum level

of acceptability. We ended up with more than 80 percent in the good category and decided it was ready for release."

This winter, High Mowing Organic Seeds started taking orders for Who Gets Kissed? Their seed catalogue describes it as: "A sweet corn bred for (and by) organic growers! Excellent flavor and tender texture; good cool soil emergence. Compact 5 to 6-ft. tall plants with ears 2 ft. off the ground; 14 to 16 rows of kernels each. Good tip fill and husk coverage. Ears have an extended harvest window—check frequently for maturity. Intermediate resistance to rust and smut. Bi-color. Sugary enhanced (se). 7 to 8-in. ears."

However, Tracy notes that as good as it is now, growers may make it better. He and Diffley are working on more varieties.

"Open-pollinated seed can always continue to improve, and we hope growers do improve it," he says. "Over time, we hope to have 'Who Gets Kissed?' or something else derived from it that is even better in disease resistance and quality."

Hubbard notes that Who Gets Kissed? demonstrates the success of participatory plant breeding. The OSA has already helped introduce broccoli, zucchini and spinach and is working on carrots and more.

"Participatory breeding empowers farmers to take a lead role in the development of new seed varieties by combining their practical experience with the technical expertise of formal breeders," says Hubbard. "We're excited that the model is resulting in more high-quality organic seed like Who Gets Kissed? in addition to more farmers gaining skills to develop their own varieties on their farms."

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