

Say you're a boy, all of 7, growing up in a northeastern Kansas farmhouse that's hearth and home to 18 hungry souls—brothers, sisters-in-law, cousins, parents, grandparents, a great-aunt and her maid. Gardening means planting a thousand strawberry plugs, an acre of sweet corn. Against the looming winter you put up 500 quarts of tomatoes, fill a cellar coal bin wall to wall with potatoes. You raise dairy cows, sheep, wheat, soybeans, alfalfa. You learn quickly that food is important.

Tom Wagner learned more quickly than many. At an age when most boys were pitching marbles and plotting mischief, he was breeding plants and advising his father how to improve the family's Holstein herd.

"Because I was just a kid, basically I was looking for cuteness, spryness, orneriness," says Wagner, who lives now in Everett, Wash., of his early adventures in animal husbandry. "We ended up with milking cows

that were long-legged and wilder than a goat in the mountains. They didn't give much milk and what they did give was 2 percent. So a lotta good I did."

He would have better luck with his plant crosses. After completing a triple major in botany, geography and anthropology at KU, Wagner, c'69, went on to develop thousands of new tomato and potato varieties, earning a reputation as one of the world's most accomplished plant breeders—and the snappy nickname "Tater-Mater Man."

His creations, the tomatoes especially, are more famous than their creator. They have grown in the *potager du roi* ("the king's kitchen garden") at the Palace of Versailles. They've commanded full-page spreads in national magazines and top billing on the menus of famous chefs. They have spawned homages and imitations and outright piracy, all while being crowned by backyard gardeners and market growers as among the best-tasting, most visually striking varieties around.

by Steven Hill

PORTRAITS BY CHRIS TUMBUSCH



Working on borrowed ground, Wagner raises hundreds of tomato and potato varieties each summer in Washington State, cross-pollinating plants by hand to produce new cultivars with the taste, color and other qualities he's searching for. "Collecting tomatoes is like collecting marbles or toy soldiers to me," he says. "I couldn't find enough varieties, so I had to create my own."

By far his most well-known edible invention, perfected after 15 years of trial and error, is a ripe-when-green tomato with bold stripes and a citrusy tang that he dubbed the Green Zebra.

It's often cited in seed catalogs as "an heirloom variety, origin unknown." By most definitions it's not technically an heirloom (more on that later) and its origins *can* be traced, precisely, to the Wagner family farm south of Lancaster in Atchison County.

Alice Waters, founder and chef of Chez Panisse, the Berkeley, Calif., restaurant that helped launch the local, seasonal food movement, promoted the Green Zebra as one of her favorite tomatoes and featured it on her menu. But perhaps nowhere have Wagner's creations been more warmly embraced than Europe, where the Green Zebra is listed on the French government's list of heirloom tomato breeds—despite the fact that it's not French. In the United States, a May photo spread on gourmet tomatoes in *Better Homes and Gardens* dominated by his breeds failed to mention Wagner's name; in Europe, where he went on a speaking tour with longtime friend Michel Lachaume, a French Canadian



plant breeder and organic crop researcher, he was treated like royalty—literally—welcomed at castles and received in Brussels' Grand Place in a hall usually reserved for kings and heads of state.

"Everywhere we went—palaces, universities, gardens—everywhere were Tom's tomatoes," says Lachaume. "It was unbelievable how he was welcomed. I thought I was traveling with God! In the gardening world, he's a star."

"There's a little bit of sorcery, a little bit of alchemy that goes into it. You almost have to be a magician. What can you pull out of the hat?"

—Tom Wagner

In his 2010 book, *Ripe: The Search for the Perfect Tomato*, journalist Arthur Allen interviews a plant scientist who created a genomics company to use gene-marking technology for breeding crops. "We use computer science to look at breeding as an engineering process and optimize it, for tomatoes and a lot of other species," the scientist says. "The idea is that plant breeding and genetic improvement is a process that isn't that different conceptually from manufacturing a device or scheduling airline flights or optimizing Wall Street strategies. It hasn't been treated like that. It's been treated more as a mixture of art and science."

As Allen documents, transforming the making of a great tomato into a streamlined engineering process—"doing what humans have done for thousands of years, just more efficiently" as the scientist puts it—is easier said than done. Big Ag has failed to come up with the killer app: A hybrid plant that produces a high volume of fruit with a tolerance for long-distance shipping, a long shelf life and the big, mouth-bursting taste of a vine-ripened backyard tomato. Meanwhile, interest in heirloom varieties—old-school tomatoes passed down for generations and grown now in home gardens or small-scale farms and highly sought by foodies at farmers' markets and gourmet restaurants—has surged.

This is the tomato spectrum: At one end corporate seed companies and large agribusinesses cater to the needs of growers, shippers, grocers and fast-food restaurants rather than consumers. At the other, seed savers, organic farmers,

gardeners and chefs view great taste as the holy grail. Somewhere between is Tom Wagner.

"We call him the creator of brand new ancient tomatoes," says Michel Lachaume. "Tom uses a lot of wild genetics and old heirloom genetics to create new tomatoes. He finds treasures in the gene pool, and he shares those treasures with the rest of us."

Because he crosses existing tomato cultivars to create new varieties, Wagner is more than a strict preservationist guarding old heirloom lines. (In fact, the Wagners had a family heirloom tomato, brought from Germany in the 1880s. "As usual, I had to cross it with something, so I don't have it anymore," he says.) But because he taps the proven advantages of these long-established lines—resistance to drought and disease, for one example, fabulous taste, for another—he is much closer to the heirloom model than to the corporate agriculture model.

"I'm working primarily with heirloom-type tomatoes," Wagner says. "I'm a little bit of a homespun, home garden type, but I'm also somewhat professional in my approach. So I'm kinda like a bridge between heirloom and commercial. My varieties maybe are not in the true definition heirloom, but I'm in my 60th year of breeding tomatoes, so I'm almost an heirloom by default."

In fact, the Green Zebra, which Wagner perfected in the 1970s and introduced to the public in his first Tater-Mater seed catalog in 1983, is going on 40 years old. Depending on who you ask, cultivars must be 50 or 100 years old before qualifying as true heirlooms. The Green Zebra is getting close.

Heirloom by descent. Open pollinated. Boutique. Specialty. Novel. Heirloom hybrid. Whatever you want to call Wagner's tomatoes, they definitely owe more to art than engineering. The term comes up frequently, whether talking to the Tater-Mater Man or the people who know him best.

"It's a passion; it's a need," Lachaume says of Wagner's urge to create new plant breeds. "Basically, Tom is an artist. A musician needs to play music; an artist needs to paint. He plays with genes and

makes tomatoes that are so beautiful. He has an artistic temperament, too."

Gary Cass, who grows Wagner's tomatoes for seed in Hawaii and sells them at tomwagnerseeds.com, sounds a similar note.

"He's definitely his own guy. In the field of tomatoes he's more like an avant-garde painter or cutting edge musician than the standard conventional type. He's one of a kind."

That artistic temperament hasn't always served Wagner well as a businessman.

"There's nobody else I know in the industry today who approaches Tom in terms of knowledge and style of what he does," says Cass, who points out that Wagner can recite the complicated lineage of a particular tomato or potato cultivar—which can involve many crosses and multiple parents—off the top of his head, but he doesn't always keep good written records on his genetic lines. "He's hard to categorize. Over time he has proven to be a little difficult to work with exactly for that reason: People are not used to his way of thinking in a completely different vein and in a broader way than most people who do tomatoes."

In the Green Zebra, Wagner was trying to produce a green tomato that wouldn't crack and would deliver tart flavor. "That zing was what I was after," he says. "The

color and the zing." Four different varieties and tens of thousands of crosses and recombinations over a decade and a half went into creating it. Repeat that process for the Green Grape, Banana Legs, Skykomish, Helsing Junction Blue and any of the thousands of other cultivars Wagner has created. All that accumulated knowledge, born of years of tinkering, trying, failing, starting again, creates a kind of sixth sense about the best way to a desired result: good taste, stripes, unusual coloration, crack resistance, disease resistance.

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Such wizardry is the stuff of experience, not engineering.

"You have to be able to feel for the rabbit ears in the hat," he says. "Otherwise you'll pull out a snapping turtle."

Part of Wagner's popularity in Europe may result from his stance on seed freedom. In plant-breeding circles, the Tater-Mater Man is what's known as a "free breeder," Lachaume says.

"Free breeders think that mankind should own the seed; life should not be copyrighted. It's basically a farmer- and gardener-owned approach, where the



people who feed the world and themselves have the right to own their seeds. We see ourselves as a conduit for seed freedom, not a blockage of freedom.”

By contrast, small growers and home gardeners in Europe are protesting a new European Union law that restricts the saving and exchange of seeds by small growers and home gardeners. Lachaume says the Plant Reproductive Material Law would make it illegal for neighbors to trade tomato seeds. Wagner says it makes him an outlaw.

Most of Wagner’s tomatoes are open pollinated, stabilized plant lines: Save seeds from a Green Zebra or Clackamas Blueberry and you can plant them next spring in full confidence that you’ll get a tomato in every way identical to the fruit that provided the seed.

Major seed companies, on the other hand, use nonstabilized hybrids, and the parent cultivars—the two tomato varieties that must be cross-pollinated to make the hybrid—remain a closely guarded trade secret. To grow a commercial hybrid, you must buy seed or started plants from the company every year.

Wagner, on the other hand, freely shares information about his plant lines with other breeders.

“Even though he’s developing hybrid varieties he’s still very willing to share information about how he developed them,” says Diane Ott Whealy, vice president of Seed Savers Exchange, a nonprofit organization she co-founded in 1975 with Kent Whealy, j’68, to preserve heirloom seeds. “He’s a very generous

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—Diane Ott Whealy

person, because he’s developed all this knowledge and experience and he wants to share it with young gardeners and breeders. That’s very unique these days, because a lot of plant breeders aren’t as open as Tom has been. That’s really to his credit.”

There is a downside to such openness: Corporations are free to grow out his lines, collect the seeds and sell them for profit. “Right now, we put a new variety on the website and I see who’s buying the seed; I know who these guys are,” Gary Cass says. “They’re going to sell it on their website next year, sometimes cheaper than Tom sells it, and he gets nothing.”

During the school year Wagner works as a substitute teacher. He owns no land, has no garden to call his own. He borrows ground, knocking on doors when he sees a spot that looks promising.

“I’m Johnny Tomato Seed, Johnny Potato Seed. I ask if I can put out plants, and as long as I can get some seed they get to keep the tomatoes. I have to beg seed off my own plants. I’m not making a lot of money. It’s a labor of love for the most part.” Though he says he’d like to own a bit of land someday, maybe keep a few chickens, he’s philosophical about the lack

of material gain in his chosen field.

“Some people have a calling to religion; mine is to plant breeding,” Wagner says. “There’s a lot of charity in sharing seeds with people; there’s faith in what you’re doing. Getting close to the soil, that’s a pretty honest living, and when I die I leave something behind that’s worthwhile. If I leave money, who’s gonna remember that?”

Beyond great-tasting, beautiful-to-look-at tomatoes and potatoes, Wagner’s lasting legacy may be the enthusiasm and know-how for plant breeding that he passes to others.

“He’s a 67-year-old teenager,” says Lachaume. “He loves to laugh, and when he starts talking tomatoes and potatoes he’s so passionate and knowledgeable. People love to hear him talk. He’s an amazing teacher, and he’s creating a whole new generation of breeders.”

Decades ago, when Wagner began fiddling with the idea of developing a green tomato, he showed an early effort to his father. The elder Wagner was skeptical, and said so with the era’s stock phrase for acknowledging outlandishness.

“Nobody’s gonna want a green tomato with green stripes,” Tom recalls his father telling him. “He said, ‘See you in the funny papers.’”

In May, Wagner went to his local Home Depot to buy a Green Zebra seed pack he’d gotten wind of. Targeted to kids, the pack—which sells for a \$1.99—features a cartoon Mickey Mouse under the Burpee label.

“So, yeah, Dad was right,” Wagner says, with a wry laugh at the absurdity of it all: paying retail, for a tomato he invented, sold under the imprint of two worldwide brands, at a big box store. “See you in the funny papers!”



“As famous as he is for his tomato work, his potato work is even more remarkable,” says fellow plant breeder Michel Lachaume. “He has created potatoes of all shapes, sizes and colors, with lots of vitamins and huge disease resistance.”

DIGITAL WATERCOLOR ILLUSTRATIONS: PHOTOGRAPHS COURTESY WAGNER SEEDS

Wagner Seed Sampler



BEAUTIFUL DREAMER



VERDE CLARO



BIG SKY BRANDY



SKYKOMISH



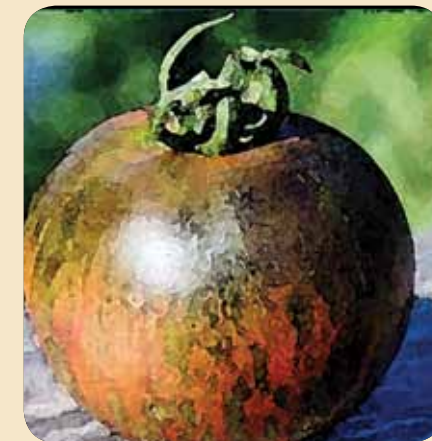
BLACK CASADY



BLUE STREAK



HELSING JUNCTION BLUE



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