

# Tasty deals: Apps help find unsold food and reduce waste

By **KIRSTEN GRIESHABER**  
Associated Press

BERLIN — After a long day at work, Annekathrin Fiesinger is too tired to consider making dinner at home. So the 34-year-old uses her smartphone to check nearby restaurants, hotels or bakeries in Berlin for food being sold for a discount at the end of the day.

The part-time coffee shop worker, who is also studying for a degree in the science of ecosystems, is part of a growing movement of environmentally aware people in Germany and beyond who are using apps to reduce food waste and try to cut down on climate-wrecking carbon emissions.

While it's unclear how big an impact such efforts have in ultimately reducing emissions, they reflect how environmental concerns are growing and shaping the behavior of consumers and businesses.

"For me this is all about the environment," says Fiesinger. "We cannot go on with all this wastefulness."

Fiesinger uses "Too Good To Go," Europe's most popular app to find discounted unsold food. It uses her phone's GPS to tell her which registered businesses nearby have extra food for sale, and what they're offering.

"It's super easy: just download the app and, on your way home, pick up what you like best," she explained, scrolling through a long list of photos advertising veggie meals, baked goods and unsold lunch specials.

The app is part of a growing number of services using technology to help reduce food waste.

Activists have built online communities to share food with neighbors before throwing it away. Startups have teamed up with supermarkets to create applications that alert consumers when groceries that are about to expire are marked down. Even the German



**Franziska Lienert, spokeswoman of the company that runs the food sharing app "Too Good To Go," uses a tablet to find a restaurant participating with the food sharing community.**

AP Photos/Markus Schreiber

government has launched a phone app offering recipes by celebrity chefs made specifically for leftover groceries that often get discarded.

On average, every German throws away more than 120 pounds of food a year, the government says. That's about 11 million tons of food annually, which creates 6 million tons of carbon dioxide emissions that contribute to global warming. Globally, about one-third of all food ends up in the garbage. Emissions come from burning the wasted food but also from producing the food in the first place. For example, cattle raised for beef and milk are the animal species responsible for the most emissions, representing about 65% of the livestock sector's emissions, according to the U.N.

Scientists say the only possible way to slow down global warming is by drastically reducing the emissions of greenhouse gases, such as carbon dioxide in the coming decades. Doing so means ending the use of fossil fuels and cutting back



**Armin Doetsch, owner of the restaurant Aennchen von Thorgau. Doetsch participates in a food sharing program via the App "Too Good To Go" for ecological reasons.**

on other sources of emissions, such as intensive land use for agriculture.

The German government has said it wants to reduce food waste by half until 2030 and Chancellor Angela Merkel called on all citizens to support initiatives that help avoid food waste.

"I think that every single person can contribute

to this big goal," Merkel said during her weekly podcast in February. "Digitization can help with intelligent packaging and (online) platforms via which one can then share food."

The "Too Good To Go" app, which was created by a couple of Danish entrepreneurs in 2015, has seen its number of users grow rap-

idly. More than 5,000 people download the app in Germany every day, a spokeswoman for the company says. It's also available in 10 other European countries including Denmark, France, Britain and Poland.

"So far, we have rescued 14 million meals in Europe from being thrown away — that equals 35,000 tons of CO2 that have been saved," spokeswoman Franziska Lienert said.

Evaluating the actual impact of those saved meals can be tricky, as the consumers would have likely bought food from another retailer instead. But food sharing programs and apps can help better match demand for meals to their supply, increasing the industry's overall efficiency.

Ten million people use "Too Good To Go" and some 23,300 food businesses participate, Lienert said. It's the most popular, but other food sharing apps include FoodCloud, Karma or Olio, which is available in hundreds of cities in the United States.

To make a profit, "Too Good To Go" keeps 1.09 euros (\$1.22) per meal sold through the app. The food is usually about 50% less expensive than its original price.

Like Fiesinger, most of the app's users are university students and young, tech-savvy professionals.

While a growing number of businesses are participating in such app-based schemes, many others still give their unsold food for free to charities that distribute it to the homeless or other people in need.

Whereas unsold food in Germany usually ends up in the garbage, France and the Czech Republic have in recent years implemented laws banning supermarkets from throwing away food and instead ordered them to donate it to charities and food banks.

In Berlin, Fiesinger checks her phone for food offered in her neighborhood.

She decides on a lunch special at Aennchen von Thorgau restaurant on the banks of the Spree river. She clicks on one of four unsold pasta dishes, ordering and paying automatically.

"In Berlin, it's really easy to find something — there's something waiting for you on every corner," says Fiesinger on her way to pick up her meal.

Restaurant owner Armin Doetsch says he participates in the app's program mainly for environmental reasons.

"We often have leftovers from our lunch specials," Doetsch said. "Rather than tossing it, we prefer to give it away, even if it's only for little money."

He piles a dish of Spaetzle pasta with mushrooms — marked down to 3.80 euros from 6.50 euros — into a container Fiesinger had brought along and hands it over with a smile.

"We also want to avoid extra packaging waste," says Doetsch. "Everybody who brings along their own Tupperware box gets free ice cream as a reward."

## Meet Oregon's fermented foods pioneers — the Shockeyes

By **AARON SCOTT**  
*Oregon Public Broadcasting*

APPLEGATE VALLEY — Do you ever dream of moving to the country? You know, grow your own food in the garden, maybe raise a few chickens and goats.

Kirsten and Christopher Shockey moved to Southern Oregon's Applegate Valley to do just that: They wanted a humble homesteader life. And along the way, they became pioneers in a global fermented foods movement, with their newest book, "Miso, Tempeh, Natto & Other Tasty Ferments: A Step-by-Step Guide to Fermenting Grains and Beans," due out Tuesday.

Like other homesteaders, the Shockeyes' day generally begins with a trip to their garden, where every morning seems to deliver a delicious surprise.

"Oh my gosh, so good," says Kirsten, popping a radish seed pod in her mouth and handing several to Christopher.

"They're super peppery," he replies after trying one. And then another. And then another. "I'm going to have to stop eating them."

"Yeah, you are," she laughs.

While others might only harvest what they can eat while it's fresh, the Shockeyes have another goal in mind: fermentation. They pick the pods and a basket full of basil and head back to the commercial kitchen on the ground floor of their house. Setting their haul on the table, they break out bowls and salt. Because fermentation always begins with salt.

"Give me a nice sprinkle," says Christopher, as Kirsten pours a quarter cup or so of salt on the basil and he starts to rub it in. "So this

is the magic. We're going to take a whole bowl of basil and massage that salt in. It's pretty amazing: Out of basil you can get that much brine coming out of there," he says, squeezing a handful of leaves and watching the green brine run through his fingers.

They pack the basil and brine into a jar and put it in the pantry, where it joins shelves and shelves of colorful, bubbling brews. Fennel, leeks, rhubarb, rutabaga. Chances are if it grows in a garden, they've tried to ferment it.

But what, exactly, is fermentation?

It's an ancient form of pickling, where instead of adding vinegar, you get the microbes that naturally occur on the veggies to do the preservation work for you. This is how Christopher explains it in classes for kids: "We're going to use microbes — little, teeny, tiny guys; guys that you can't even see — and their job is to eat the sugars, and they're going to make lactic acid, which is that sour taste that you taste, and they're going to fart CO2. And then usually the kids are like, 'Oh, my God, is it going to be smelly?' It's like, 'Yeah, it's smelly!'"

It might be smelly, but as the Shockeyes like to point out, it's also good for you. Scientists are finding that the microbes themselves, called probiotics, are beneficial, and as they break down the food, they add extra vitamins. And, unlike freezing or drying, fermenting preserves the volatile oils that hold in flavor.

"So it's like you're taking the smell on this harvest of right now," says Kirsten as she points to the basil. "and you're going to capture it in that jar."



**Kirsten and Christopher Shockey ferment basil, along with everything else they can grow, in the test kitchen in their home in Southern Oregon's Applegate Valley.**

Oregon Public Broadcasting Photo/Kristen Henderson

The Shockeyes didn't set out to be mad culinary scientists. They originally moved from Corvallis to Oregon's Applegate Valley in 1998 in search of a simpler life.

"Especially as the kids were starting to grow, I just wanted them to be grounded," Kirsten says. "I wanted them to have a connection with the land, and I wanted them, more than anything, to know where their food came from."

The idea was to get their 40-acre homestead to pay for itself, which turned out easier said than done. Their first thought was a vineyard, but everyone else was doing it. Then they decided to make cider, but it was going to take years for the apple trees to mature. So they tried a dairy, but they

couldn't grow enough fodder to make it sustainable.

Meanwhile, they got a crock of sauerkraut as a gift and that inspired them to start making it at home. It turned out to be a crock of kraut that changed their lives.

"Then we thought we should launch our own label," Christopher says. "We schlepped a lot of sauerkraut to farmer's markets back in the day when it wasn't sexy — a lot of yucky faces."

At the time, most Americans associated sauerkraut with the canned goop served at ballgames. But like the pioneers who came to the Applegate Valley before them, the Shockeyes were resourceful. They saw fermentation as a way to bottle the beauty and the bounty of

the landscape around them — and customers began to flock to their flavorful concoctions.

"We created vegetable recipes that maybe didn't have a cabbage blade in them at all, and so the idea was really working locally," Kirsten says.

"She did 52 varieties in one year: 52," Christopher exclaims.

They experimented with fermenting anything and everything neighboring farms grew in surplus, creating a tool for local farmers to transform a loss into a profit.

"It's using what would be considered waste products a lot of times, whether they're, as my husband puts it, 'cosmetically challenged vegetables,' or overruns," says Mary Alionis, owner of the nearby Whistling Duck Farm and Store and a long-time Shockeye supplier. "So it also allows me to grow a surplus of things, and then I know that I'm not going to have too much because my surplus can go into fermentation."

Realizing there was only so much kraut one couple could sling — and in response to repeated customer requests for recipes — Christopher suggested they write a cookbook (and eventually turn the production business over to Alionis). Kirsten's response: It's been done.

"The only fermentation book out there at the time was Sandor Katz's 'Wild Fermentation,' so a small one and Christopher plucked it off the shelf and came back to me and said, 'Yeah, but there's only 17 pages of vegetables.'"

So they started going through vegetables alphabetically, arugula to zucchini, in a quest to figure

out how to ferment them all. In 2014, they published the results in a cookbook titled "Fermented Vegetables: Creative Recipes for Fermenting 64 Vegetables & Herbs in Krauts, Kimchis, Brined Pickles, Chutneys, Relishes & Pastes." The book has now sold more than 100,000 copies worldwide and helped feed the fermentation wave that swept things like kimchi, kombucha, and keifer into the mass culinary consciousness — and every grocery store near you.

"There's a revitalization of sauerkraut in Germany, for example, and that's with books like ours," Christopher says. "And so to think that two people from Oregon are responsible in some little way for Germans to learn how to make sauerkraut ... it's just mind-blowingly cool!"

The Shockeyes have followed with a condiment cookbook, "Fiery Ferments"; their upcoming guide to fermenting miso, tempeh, natto and other legumes; and a new book about cider that's in the works. Now they travel the world to teach their Oregon-grown gospel of fermentation.

The Shockeyes may come up with recipes, but what they really hope people take away from their books and classes is a playful willingness to experiment with fermentation.

"What I've seen is this explosion of creativity," Kirsten says. "People all over the country and all over the world saying, 'Wow, look, I can use this method, this thing that has worked, you know, since people had a vessel and some salt, really — and look what I can do with it. Look at the flavors that can happen!'"