

Robots aid Northwest eatery, farms

By FRANCISCA BENITEZ
Oregon Public Broadcasting

A robotic dairy farm might sound like an idea straight out of a science fiction novel to some, but for Darleen Sichley, it's actually old news.

"I think most people have that picture in their mind of, you know, you're sitting down on a milking stool to milk your cow," she said. Sichley is a third-generation dairy farmer. Her Silverton farm, Abiqua Acres, is completely family-owned and operated.

"We started with robotics in 2017 and it's been a great transition," she said.

Tech and food have gone together since humans' ancient ancestors made stone hand axes, and technological developments have been fundamental to the project of feeding humanity since the agricultural revolution millennia ago. Increasingly, automated systems — you might call them robots — are part of that equation.

From picking fruit, serving food and milking cows to doing dishes at a restaurant, robots help fewer people do more, all while making work safer for humans.

Most dairy farming is

done with the use of milking units. A person attaches the unit to the cow's teats and the milk goes through a pipeline and into a tank.

At Abiqua Acres, robots automate a few of these steps and eliminate others. Essentially, the cows can walk in at their own leisure and be milked automatically. This gives the Sichley family — and the cows themselves — more flexibility.

"As the cow enters the milking stall, she's IDed by that RFID tag in her ear, it has her information. The system has her information, so it knows how much milk she's expected to give," Sichley explained. "It has a map of her udder, where her teats should be. So it starts the process of cleaning her teats first, and then it attaches the milking units."

The entire process — which also involves feeding the cow and disinfection — takes about seven minutes. The machine stores information about the cow's milking routine that allows Sichley to instantly check on her cows from her cell phone or computer.

A generation ago, before automation, this process could take two and a half to three hours each morning and night.



Hanin Najjar/Oregon Public Broadcasting
A robot host at Top Burmese Bistro Royale in Beaverton stands ready to help welcome customers.

"And so now we have a lot more flexibility in our day and what we can do. We still have your daily chores, but it is lots more flexible with a young family," Sichley said.

She doesn't ever see robots taking over the human element of dairy farming. "You still have to be hands-on, you know, they're still living creatures and you can't just put in robotics and walk away," she said.

"Part of our job as dairy farmers is to love on them," Sichley said. "They're our

ladies, they're our coworkers and that's part of our job."

"Agriculture is one of the really labor-intensive and really risky and, in some cases, dangerous operations for us to be involved in," said Manoj Karkee, associate professor of biological systems engineering at Washington State University.

Beyond milking cows, robots help with pest control at vineyards and orchards, picking fruit in the hot sun and inspecting grain. They allow people to produce

more food, more safely.

The U.S. produces almost three times as much food, with only a quarter of the human labor, as it did 60 years ago, and the key has been technology.

But as robots learn more human-like skills, there are still gaps in what they can achieve. For now, for example, they lack the delicate touch needed to pick fruit in some orchards. Existing picking robots can navigate orchards and find fruit on their own.

"But there's a very specific way professional pickers pick fruit. They do it in such a way it minimizes the damage and make sure it can store and go to the grocery shelf," said Joe Davidson, assistant professor of robotics at Oregon State University.

In those orchards, robots still have a lot to learn, and researchers are still trying to figure out how to teach them, Davidson said. "How can we train robots to use their hands to pick fruit like people do?"

As robots learn more human-like skills, they're also beginning to work at the very end of the cycle that takes food from fields to plates. At the Top Burmese Bistro Royale in Beaverton,

robots are not producing the food. Instead, they're helping to serve it.

"Our robots carry from point A to point B, and that's a start for now," said Kalvin Myint, the restaurant's owner.

The bots, with their small yet surprisingly expressive digital smiles, are a cute and fun addition to the dining experience.

Myint said the robots traveled about 60 miles inside the restaurant last month.

"That's 60 miles that our servers didn't have to just walk around with all the different heavy dishes," he said. "And instead they focus on doing other things that they enjoy: going from table to table, greeting the customers and talking about food."

"It has a camera that actually reads all the different QR codes on the ceiling and then the LIDAR that uses light to detect objects around it for collision avoidance," Myint said. "In a nutshell, it knows where it is and it knows where it needs to go."

And, in a nutshell, that's the point of robots and automation every step along the way: teaching machines to know what to do, where to go and how to make human lives easier.

SCOREBOARD

PREP SPORTS SCHEDULE		
TUESDAY		
Volleyball — Warrenton at Seaside, 6:30 p.m.; Knappa at Neah-Kah-Nie, 6:30 p.m.; Southwest Christian at Jewell, 6 p.m.	2. Sisters (3) 100 3. Sweet Home (2) 90 4. Junction City 69 5. Cottage Grove 51 6. Tillamook 37 7. Philomath 36 8. Corbett 27 9. Henley 20 10. Cascade 16	7. Days Creek 32 8. Jewell (1) 19 9. Central Christian 16 9. North Clackamas Christian 16
Boys Soccer — Seaside at Newport, 6 p.m.		BOYS SOCCER
Girls Soccer — Newport at Seaside, 7:15 p.m.		4A
PRE-SEASON COACHES POLLS		
VOLLEYBALL	1A	
4A	1. St. Paul (2) 65 2. Damascus Christian (2) 59 3. North Douglas 43 4. Powder Valley (3) 37 5. Crane 36 6. Country Christian 35	1. Stayton (10) 101 2. Phoenix (1) 89 3. Marist Catholic 71 4. Valley Catholic 59 5. North Marion 55 6. Ontario 41 7. Seaside 29 8. Henley 24 8. La Grande 24 10. McLoughlin 14 Others: Hidden Valley 13, Molalla 12, Cottage Grove 12.
<i>(First-place votes in parentheses)</i>		
1. Valley Catholic (7) 112		

OREGON CAPITAL
INSIDER

We're investing in Salem coverage when other news organizations are cutting back.

Get the inside scoop on state government and politics!

We've gone ABOVE & BEYOND to make sure you are COMFORTABLE & SAFE at your next dental visit.

We have Infection Control Procedures in place for your safety & ours.

** In addition to a filtration system, external vacuum systems, air purifiers, and foggers, we have added negative pressure to all operatories. The safety and comfort of our patients has always been a priority at Klemp Family Dentistry. We are very proud of these innovations. Thank you for your continued confidence in all of us.

Thank you Diamond Heating and JJ Electric Service LLC for completing our negative pressure system.

Excellence in challenging conditions. ★★★★★
Diane G.

I saw the highest standard of health safety practices in effect during my hygienist appointment today—much higher precautions than I'd seen in a local hospital when having tests last month. The new sanitation equipment and attention to patient safety at Klemp Family Dentistry is in keeping with a dental practice I consider cutting edge with respect to all my dental needs. It's wonderful having a world class dental practice here at the coast, one where I can have procedures performed for which I used to have to travel to a specialist in Portland. I have been a patient of several local dentists in the past, but none had the skill and, more importantly, the attention to patient comfort that Dr Klemp provides.

KLEMP FAMILY DENTISTRY
1006 West Marine Drive, Astoria
(503) 468-0116
www.klempfamilydentistry.com

Save the Date
September 9, 2021, 1:00 pm
Celebration of Life

Pamela Collins Forrester
May 27, 1942 – July 6, 2021

Salem Convention Center
Willamette Room
200 Commercial St SE, Salem, OR 97301

Salem Grand Hotel (adjacent to center) is offering special overnight rates, of \$159 for king room, for Sept 8, 9, 10. When calling mention you are there for the Forrester Celebration of Life. Call (503) 540-7800 for reservations.

SEVEN-DAY FORECAST FOR ASTORIA

TODAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
 70 53 Breezy in the p.m.	 67 52 Breezy in the p.m.	 65 50 Clouds and sun	 64 51 Partly sunny	 65 51 Sunny to partly cloudy	 65 51 Partly sunny	 69 54 Mostly sunny

ALMANAC
Astoria through Thursday
Temperatures
High/low 66/57
Normal high/low 69/53
Record high 91 in 2016
Record low 42 in 1991
Precipitation
Thursday 0.04"
Month to date 0.48"
Normal month to date 0.86"
Year to date 37.97"
Normal year to date 38.86"

UNDER THE SKY
Tonight's Sky: The Milky Way arcs high overhead, through Cassiopeia in the north, through the Summer Triangle overhead, to Sagittarius in the south.
Source: Jim Todd, OMSI
SUN AND MOON
Sunrise today 6:31 a.m.
Sunset tonight 8:01 p.m.
Moonrise today 10:56 p.m.
Moonset today 1:08 p.m.

TODAY'S TIDES
Astoria / Port Docks
Time High (ft.) Time Low (ft.)
5:57 a.m. 5.7 11:37 a.m. 1.7
5:46 p.m. 7.0 none
Cape Disappointment
5:25 a.m. 5.6 11:00 a.m. 2.0
5:32 p.m. 6.8 none
Hammond
5:40 a.m. 5.9 11:14 a.m. 1.9
5:37 p.m. 7.2 none
Warrenton
5:52 a.m. 6.1 11:21 a.m. 1.8
5:41 p.m. 7.4 none
Knappa
6:34 a.m. 6.0 12:55 a.m. 0.7
6:23 p.m. 7.3 12:38 p.m. 1.5
Depoe Bay
4:43 a.m. 6.1 10:24 a.m. 2.4
4:44 p.m. 7.4 11:32 p.m. 1.5

NATIONAL CITIES

City	Today Hi/Lo/W	Sun. Hi/Lo/W
Atlanta	88/74/t	89/72/pc
Boston	72/64/pc	76/68/s
Chicago	93/77/s	90/69/t
Dallas	92/75/pc	93/76/t
Denver	91/59/pc	84/60/t
Honolulu	87/74/s	88/73/s
Houston	88/76/t	93/75/t
Los Angeles	90/66/s	89/69/s
Miami	89/81/t	91/80/sh
New York City	75/69/r	80/71/t
Phoenix	107/84/pc	107/83/pc
San Francisco	78/59/s	77/58/pc
Wash., DC	91/76/t	89/75/t

Weather (W): s-sunny, pc-partly cloudy, c-cloudy, sh-showers, t-thunderstorms, r-rain, sf-snow flurries, sn-snow, l-ice.

REGIONAL FORECAST
Shown is today's weather. Temperatures are today's highs and tonight's lows.

City	Today Hi/Lo/W	Sun. Hi/Lo/W
Baker City	79/37/s	86/42/s
Brookings	72/54/s	73/55/s
Ilwaco	66/57/pc	62/55/pc
Newberg	85/54/s	85/49/s
Newport	64/50/s	63/49/pc
North Bend	67/53/s	67/52/pc
Roseburg	88/56/s	88/53/s
Seaside	68/55/pc	66/53/pc
Springfield	88/53/s	88/51/s
Vancouver	85/55/s	84/51/s