

Era of Robotics dawns in agriculture

In 10 years, the labor shortage in U.S. agriculture will be a thing of the past.

Think about that statement. If the supply of labor were to match the demand in orchards, dairies, nurseries and processing plants, U.S. agriculture will have entered a new era.

Call it the Era of Robotics.

"I believe we are at a tipping point where over the next 10 years robotic harvest will become the norm," Dan Steere, Abundant Robotics co-founder and CEO, told EO Media Group reporter Dan Wheat.

Abundant Robotics this spring ushered in the era for apples. One of the company's machines was used to harvest an orchard in New Zealand this spring.

The robot meticulously worked its way through the orchard, vacuuming apples off trees that were trained to trellises and whisking them into bins.

This step toward a mechanized apple harvest follows on the heels of self-propelled picking platforms that allow pickers to leave their ladders at the shed and instead motor through orchards. The mobile platforms increased production of pickers, requiring fewer of them and easing the shortage.

Robotics have also gained popularity at many dairies, where cows decide for themselves when they need to be milked. The robots not only clean and milk the cows, but take their temperatures and screen them for production and indicators of illnesses. If a cow presents any symptoms, she is automatically separated from the herd and a veterinarian is notified.

The driver for the research that led to these breakthroughs is the increasing shortage of farm labor. In orchards and dairies, the

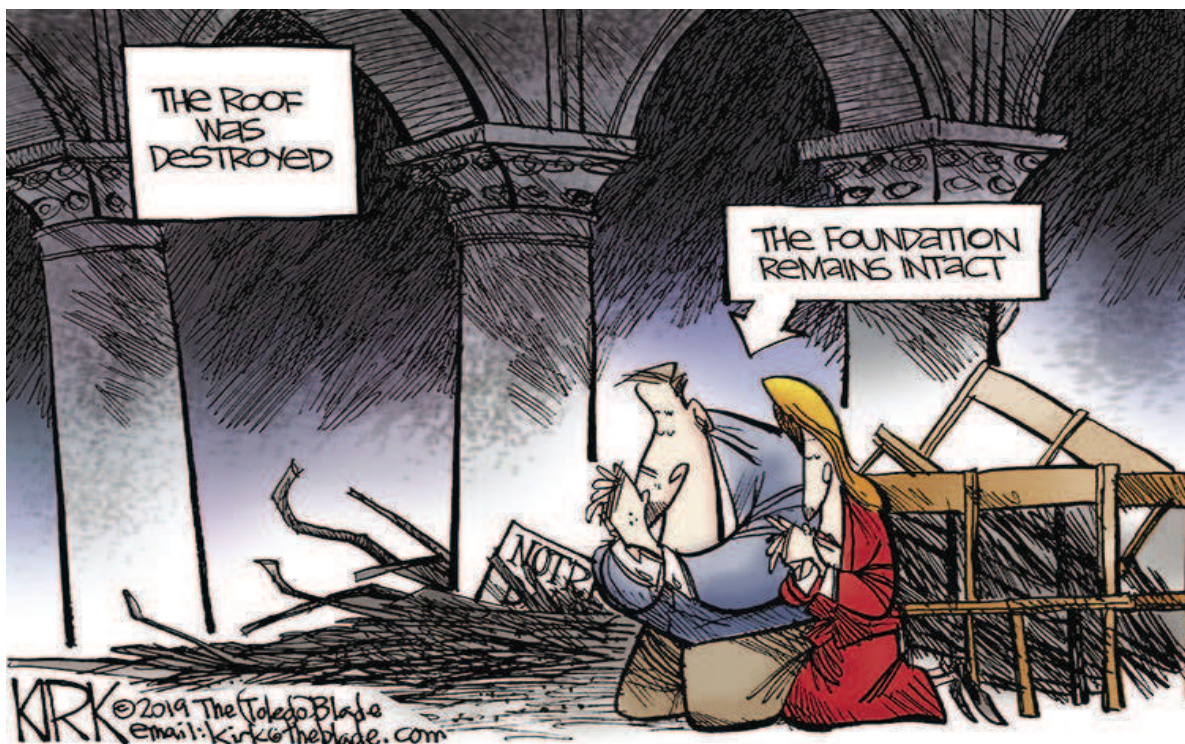
shortages have been particularly vexing. The need for farmworkers in both types of operations is massive. Dairies must milk cows two or three times a day in addition to growing feed and tending the herds. In orchards, harvest and pruning trees are labor-intensive operations.

The labor needs have forced many farmers to look abroad for help. Using the federal H-2A foreign guest-worker program, they hire and bring help from countries such as Mexico. Last year, Washington apple growers alone hired 24,862 guestworkers. Nationwide, about 242,762 H-2A guestworkers were brought into the U.S. because farmers have no other way to get their crops harvested. And it's not cheap: the federal government requires farmers to pay for transportation and housing, in addition to paying them a higher wage.

The economics alone make robotics more attractive. A robot can work 24/7 with no breaks. And now it is becoming more technologically attractive, and companies such as Abundant Robotics, based in California, and FFRobotics, based in Israel, are engaged in a "space race" of sorts to bring robots into the world's apple orchards.

As the robots get faster and better, they will revolutionize the apple industry, just as they are doing for the dairy industry. Other types of agriculture, from asparagus to strawberry farms, are also ripe for robotics. Any farm that requires a lot of labor to do repetitive tasks is a prime prospect for robotics.

This is the dawn of an exciting new era for agriculture, and for anyone who eats.



SHOOTING THE BREEZE

GO FISHIN'

It is looking like spring might be here to stay. The rivers and creeks are starting to go down, and except for a turkey or two, hunting is on hold. That must mean that it is time to go fishing. I freely admit that I'm not a diehard fisherman. That being said, it beats mowing the lawn, so I go every now and then. My kids love to fish, even my little princess. Since I want her to enjoy the outdoors with me, I encourage it as much as possible.



Rod Carpenter

When I started looking into places to take my kids, I was amazed at the opportunities we have right here in Grant County. Did you know the Oregon Department of Fish and Wildlife stocks over 25 ponds, lakes and streams in Grant County? The Eagle published the schedule in the April 3 newspaper, and you can find that online or check myodfw.com. Most of us know about Seventh Street, Holliday and McHaley ponds. They are great places to take the kids for some easy success, but did you know about all the others? The John Day office has a map of 22 ponds all within 20 miles of Ukiah. I'm pretty excited to go try them out this



Contributed photo
Columnist Rod Carpenter's 9-year-old daughter, Ella, shows off the spoils of a successful fishing trip.

year. I'm thinking of getting a couple of buddies together and having a race. We are going to have a set time to hit as many of the ponds as we can while catching one fish at each pond.

If those ponds sound a little too pedestrian for your taste, or if you are looking for more of an adventure, the county can cater to that as well. Strawberry and High lakes, as well as the Aldrich Ponds, are a great choice. They all require a couple-mile hike to access, but provide amazing scenery. The fishing is a little more

challenging, but a little more rewarding as well. Take your camping gear and make a week-end of it.

Rather wade a stream? We can do that. I have been drowning worms in the John Day River and Canyon Creek my whole life. Once I caught a 22-inch trout right underneath the Bridge Street bridge. The Burnt River out of Unity has always treated me pretty well also. Of course, the lower John Day is world renowned for its bass fishing, and I hear that it is good for catfishing as well, but I have never tried it.

I would give you some advice on tackle and techniques if I had any, but I don't. I like to catch fish as long as I'm fishing so I always start with live bait, usually worms, wherever I go. I don't know anything about depth or how to pick the right lure or fly. If the worms don't work, I just start throwing stuff and hope for the best. If you have any advice for me, I would love to hear it.

Whatever your tastes, take a break from the yard work and get out and do some fishing this summer.

We welcome your thoughts and ideas at shootingthebreezebme@gmail.com.

Rod Carpenter is a husband, father and hunting fool.

GUEST COMMENT

Small businesses woven into our lives

I have a challenge for you. Try to go one day without having a small business impact your life. In fact, try to go one day without having at least a dozen small businesses touch your day. It's impossible. And it's something that makes me proud.

There are nearly 378,000 small businesses in Oregon. Beyond the two out of three net new jobs they create, and beyond their employment of half the state's workforce, small businesses are woven into the fabric of our daily lives.

Consider an average day. You wake up in your home that was built by small contractors. The framers, roofers, electricians, plumbers and painters were all likely from local small businesses.

Your breakfast — be it the milk, the juice, the cereal, the eggs, the toast, the jam — all came from a farm. And given our local agricultural abundance, it's very likely it was sourced locally.

The business that paved the roads of your commute, the businesses that repair the car, bus, bike or plane you ride to work — or the businesses that built those parts for these modes of transportation — are most likely small businesses too.

The coffee shop where you meet a client or friend, the playground where you take your children or the dental office where you get your teeth cleaned all have small business written all over them.

These are the local heroes we celebrate during National Small Business Week — entrepreneurs



Jeremy Field



like Marshall Doyle from Cal-Cert Company, the U.S. Small Business Administration 2019 Oregon Small Business Person of the Year, who contributed to the safety of many people in our state by providing calibration and certification of testing equipment used in the construction, aerospace and automotive industries.

Every year since 1963, the president has declared National Small Business Week as a time to shine a spotlight on the impact of small businesses on our economy and communities. During this year's celebration, May 5-11, I challenge you take a moment to realize how many touchpoints you have with small businesses every day. It's something we often take for granted.

As you reflect on those small businesses that seamlessly weave into your day, consider the people behind the businesses. America's progress has been driven by pioneers who think big, take risks and work hard.

And consider the social impact small business owners have. Take Marshall, for example. Not only does he create jobs and economic opportunities for people in Oregon, his company's success has allowed him to give back to his

community. He volunteers as a mentor through the Small Business Development Center network at Clackamas Community College as well as being actively involved in local high schools and Portland State University.

It's a way for Marshall to pay forward the guidance he received from the SBDC earlier in the business' history. With help from SBDC advisers, he was able to turn the company from the brink of bankruptcy and grow its market share to 41 states and 13 countries while increasing gross revenue 18-fold.

Small business owners are one of our state's greatest resources. The SBA is proud to be a thread in the fabric of what small business owners weave to achieve. During National Small Business Week, join me in honoring the small businesses and entrepreneurs that are woven into our lives.

Jeremy Field is the regional administrator for the U.S. Small Business Administration Pacific Northwest Region, which serves Washington, Oregon, Idaho and Alaska. The SBA empowers entrepreneurs and small businesses with resources to start, grow, expand or recover.



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