

# Machines take place of migrants as berry harvest booms

By PATRICK WHITTLE  
Associated Press

DEBLOIS, Maine — Mary Marshall grew up living the life of a migrant farmer, spending hours under the hot summer sun picking wild blueberries with her parents and eight siblings, then ending the day bathing in a lake.

It was grueling work that she looks back on fondly — a way of life that brought people of different cultures to the camps in Maine's vast blueberry barrens. And she laments the way it is disappearing.

"Machines are taking over. Even just going down to the camps, I see a lot of machinery. That's pretty sad," said Marshall, who harvested berries 40 years ago. "Our people could really pick that."

A steady push toward mechanization in Maine's blueberry industry is reducing the number of migrant farmers who travel to the state to rake the crop, which is vitally important to the state's economy, state officials and industry leaders said.



Robert F. Bukaty/Associated Press

In this July 30 file photo, blueberries fill a tray on a harvester in a field near Appleton, Maine. Some farms report a decrease of more than half in the number of migrant workers they employed compared to just a few years ago due to the increased use of mechanical harvesters.

Maine's blueberry harvest attracted more than 5,000 migrant farmers ten years ago and it's down to about 1,500 today, said David Yarborough, a University of Maine professor of horticulture.

Workers have come to Maine to rake blueberries for years, and many of today's rakers are of Latin American or Caribbean origin. Others are Native Ameri-

can or aboriginal people of Canada, like Marshall, who hails from Nova Scotia, and some are Mainers. Reliance on migrant farming grew with the growth on the crop, which exploded from 20 million pounds per year in the 1970s to 50 or 60 million pounds per year ten years ago and 90 million pounds per year now, said Yarborough.

This year, migrant farm-

ers will pick some 90 million pounds of the wild blueberries — praised for their benefits as an anti-oxidant rich food — that grow only in Maine and parts of Canada. They will form communities of their own that revolve around hubs like the Blueberry Harvest School and ethnic restaurants such as the migrant-founded Vazquez Mexican Takeout. There's even an end-of-harvest Wyman's Cup soccer competition for pickers at Jasper Wyman and Son.

The increasing harvests came alongside the development of mechanized harvesters — heavy pieces of machinery operated by a driver — which started to play more of a role in the 1990s, workers in the industry said. Some blueberry operations have gone almost completely mechanized, and more are headed in that direction, Yarborough said.

The trend means less work for migrant farmers who have long relied on blueberry season as a chance to earn several hundred dollars per week in the summer. The season typical-

ly begins in late July and ends around Labor Day.

"It's really gone down considerably," Yarborough said. "It's subject to drop as we produce more and better machines."

Growing mechanization is also making the nature of the remaining work more difficult. Rakers are left to work in parts of the fields that the mechanical harvesters can't reach, like ditches and uneven land.

That makes a form of labor that already includes repetitive lifting and bending in the hot sun even more difficult.

"Our people are sent out to the gullies," said Marshall, who now travels to Maine every summer to work at Blueberry Harvest School.

The state has some 44,000 acres of wild blueberries, based mostly in the rural Downeast area, and the state relies on the berries for about \$250 million per year in economic value, official said. Blueberries are also one of the state's key cultural identifiers, along with lighthouses and lobsters.

Ed Flanagan, chief executive

officer of blueberry producer Jasper Wyman and Son, said his business has gone from about 20 percent mechanized ten years ago to 70 percent mechanized today. A spokesman for Passamaquoddy Wild Blueberry Company said the business has gone from 100 percent rakers just six or seven years ago to 40 percent mechanized today.

"Things are changing as more machines take to the fields in place of hand crews," Flanagan said.

It remains to be seen if the trend will eventually jeopardize the existence of the community that has grown around migrant blueberry farming every year. But Briana Mejia, a raker who has been coming to work the fields for seven years, said the trend toward machines and away from workers is clear.

"When someone builds a bigger, better machine that can do the gullies, what's going to happen then?" Mejia said. "It's all about making money."

## Oregon fossil find is the last non-human primate known to live in North America

By ERIC MORTENSON  
Capital Press

It was an 18-year investigation of a 29-million-year old case, beginning with the discovery of a single tooth in 1997 amid the sprawling ranchlands of Eastern Oregon.

Two more teeth found in 2011 and a jaw fragment discovered this year sealed the deal: The bones are the fossilized remains of the last non-human primate to live in North America, the chief paleontologist at Oregon's John Day Fossil Beds National Monument said.

The find is significant in rural Oregon because counties such as Grant, where the fossil was found, and neighboring Wheeler, also home to the national monument, continually try to diversify their economies. Ranching and logging prevail in both, and the region has tried to attract eco-tourists, those drawn by the science of the fossil beds.

For bragging rights, Samuels said the fossil was found in Grant County, in the Sheep Rock unit just inside the county line it shares with Wheeler.

The 5-pound, lemur-like animal arrived 29 million years ago, probably crossing from Asia over the Bering Strait land bridge, paleontologist Josh Samuels said. Other primates known to inhabit North America disappeared about 35 million years ago, he said.

"This thing showed up six million years after the last of them vanished," he said.

Humans are estimated to have been in North America for at least 14,000 years, Samuel said. The oldest site is Oregon's Paisley Cave, where researchers found excrement with human DNA.

The new find is named Ekgmowechashala zancanellai, after retired Bureau of Land Management archaeologist John Zancanella, who found a single tooth in the Sheep Rock Unit in 1997. Park staff, led by

then-paleontologist Ted Fremd recognized it came from an unusual animal, and returned to the site many times before finding two more teeth in 2011. In 2015, Samuels found a jaw fragment at the same spot, and the teeth matched.

Fossils of a similar lemur-like animal have been found in South Dakota, but they are a "sister species" and not identical, Samuels said. The Oregon fossil is similar to primate fossils from Thailand and Pakistan.

Samuels said erosion may eventually reveal more remains. Two more teeth found at a nearby site shows the lemur's presence wasn't a fluke.

"If we keep going back over the years we might find more," he said. "More will erode out. Most likely there is more there."

Located in Eastern Oregon in proximity to the towns of Mitchell, Fossil and Kimberly, the three scattered units of the national monument provide one of paleontology's best records of North American mammals over a 40 million year period.

Over the past 150 years, scientists have found fossils of animals ranging from saber-toothed cats and mastodons to rhinos, giant pigs, camels and three-toed horses.

The fossils are contained within multiple layers of ash deposited over the eons by erupting volcanoes, including the Cascade Range as Mount Hood and other peaks arose. The layering allows scientists to date fossil finds and trace the evolution of animals.

Plant fossils abound in the area as well, and tell a remarkable story. Before the Cascades rose and intercepted rain clouds from the Pacific Ocean, casting what's called the "rain shadow" on now bone-dry Eastern Oregon, the area was wet enough to grow redwood trees. Fossils of Metasequoia, the "dawn redwood," are among the most common found in the area.

# Hudson Valley organic farm produces seeds largely by hand

By MICHAEL HILL  
Associated Press

ACCORD, N.Y. (AP) — Drying corn stalks wilt in late summer sun as Ken Greene tours his crops. Calendula flowers are past bloom and brown. Melon leaves lay crinkled by the dirt. Plants have, literally, gone to seed.

A perfect picture for an organic seed harvest.

"It looks like hell now, but it's actually good for the seeds," said Greene, co-founder of the Hudson Valley Seed Library.

The small business 70 miles north of New York City makes seeds the old fashioned way. They are largely plucked, winnowed and packed by hand. They sell only heirloom seeds or varieties naturally pollinated by the wind, insects or birds — about 400 choices like Red Russian Kale, Thai Basil and Flashy Butter Oak Lettuce.

Essentially, the Hudson Valley Seed Library is an organic seed business cross-pollinated with a mission to preserve agricultural diversity.

Greene and his partner Doug Muller get about half of their varieties from like-minded growers, with the other half grown on a three-acre organic farm hemmed in by wooded hills. Flowers, vegetables and fruit here stay in the field past their "edible moment," even if they shrivel.

On a recent morning, head farmer Steven Crist and another worker slowly progressed down a row of calendula to retrieve seeds from desiccated blooms. Collection methods can differ by plant. Lettuce is threshed. Tomatoes are pulped and the gel surrounding the seeds is fermented. Corn cobs are fed through a device that strips off the kernels.

There are some nods to



Mike Groll/Associated Press

In this Sept. 1 photo, Ken Greene, a co-founder of the Hudson Valley Seed Library, poses with Summer Sunrise Tomatoes in a field of Gift Zinnia in Accord, N.Y. The small business 70 miles north of New York City makes seeds the old-fashioned way. They are largely plucked, winnowed and packed by hand. They sell only heirloom seeds or varieties naturally pollinated by the wind, insects or birds.

modernity, like the shop vacuum used to help draw away chaff. But much of the work here is done like in day of your great-grandparents, or even your ancient ancestors. Crist demonstrated how he rubs dried pea pods in his hands over a screen just big enough for the seeds to fall through.

"It's really good to have them crisp for this part of it," Crist said.

Select varieties are spooned into packs with plant-themed art works on the front. The eye-catching packs — which run the gamut from folksy to surreal — have become a trademark for the business.

The business grew out of Greene's love of gardening and what he considers the lack of transparency in where most seeds come from. In 2004, he was a public librarian who

started a novel program in which patrons could "borrow" seeds for planting and then return seeds produced by the plants months later. Four years, later he and Muller launched the current business.

The for-profit Hudson Seed Library borrowing program is a bit different. About 2,000 people paid \$10 to become members who are encouraged to all grow one variety they borrow. This year it was zucchini. The hope is that they will share the seeds, return them or even improve the variety through cross-pollination, as in days gone by. The goal is to educate and encourage seed-saving.

Beyond that, the business has about 14,000 retail customers annually and 250 wholesale accounts through the likes of garden centers and museum shops.

The library and like-minded

enterprises are a virtual acorn compared to the soaring oak tree of the U.S. seed industry. Jim Gerritsen, a Maine-based organic seed grower and president of the Organic Seed Growers and Trade Association, estimated that there are 500 to 1,000 commercial organic seed growers nationwide. The number of suppliers has been growing along with demand from organic farmers and home gardeners.

"These are the same people when they go the grocery store they want to buy organic food for their family," Gerritsen said. "It makes sense to them that they then want to search out organic seeds."

Hudson Valley's small scale here fits with their philosophy, though Greene and Muller are still trying to strike a balance between sticking to their seed-saving mission and staying sustainable.

## McDonald's to switch to cage-free eggs

By CANDICE CHOI  
AP Food Industry Writer

NEW YORK (AP) — McDonald's says it will switch to cage-free eggs in the U.S. and Canada over the next decade, marking the latest push under CEO Steve Easterbrook to try and reinvent the Big Mac maker as a "modern, progressive burger company."

Under pressure to revive slumping sales, McDonald's has already announced several changes since Easterbrook stepped into his role earlier this year. In March, the Oak Brook, Illinois, company said it would switch to chickens raised without most antibiotics. And in April, it said it would raise pay for workers at company-owned stores, which represent about 10 percent of its domestic locations.

The decision to switch to

cage-free eggs, meanwhile, signals a growing sensitivity among customers to animal welfare issues. That has been fueled in part by places like Chipotle that have made animal welfare standards part of their marketing.

Animal welfare activists also have long called for the banishment of battery cages, which confine hens to spaces so small they're barely able to move. For at least the past 10 years, the Humane Society of the United States has pressed McDonald's to switch to cage-free eggs at the company's annual shareholders meeting, said Paul Shapiro, the group's vice president of farm and animal protection.

"It's a real watershed moment," Shapiro said of the decision by McDonald's. "It makes it clearer than ever that cages just do not have a future in the

egg industry."

While cage-free doesn't mean cruelty-free or access to the outdoors, Shapiro said it's a substantial improvement from battery cages.

Regulatory changes could also be making it easier for companies to agree to change. In California, a law now requires that egg-laying hens be given enough space to stretch, turn around and flap their wings.

Among the companies that have said they will switch to cage-free eggs are Subway and Starbucks, although neither of those chains has laid out a timeline for when they expect the transition to be complete.

Already, McDonald's says it buys about 13 million cage-free eggs a year in the U.S. But that is still less than 1 percent of the 2 billion eggs it uses annually to make menu items such as

Egg McMuffins. Overall, only about 6 percent of the nation's egg-laying hens are cage-free, according to the United Egg Producers. Chad Gregory, CEO of the industry group, said he expects that figure to climb.

Marion Gross, senior vice president of the North American supply chain at McDonald's, said the company is working with its existing egg suppliers to convert housing systems for hens. Gross said she thinks the change will be "truly meaningful" to customers.

"They know how big we are, and the impact we can make on the industry," Gross said.

McDonald's is also likely to increase its egg purchasing over time, starting Oct. 6, the company plans to offer select breakfast items all day in the U.S.



AP Photo/Gene J. Puskar, File

In this file photo, cars drive past the McDonald's Golden Arches logo at a McDonald's restaurant in Robinson Township, Pa. McDonald's says it will switch to cage-free eggs in the U.S. and Canada over the next decade, marking the latest push under CEO Steve Easterbrook to try and reinvent the Big Mac maker as a "modern, progressive burger company."