

# U.S. NEWS

## Breeding Boom Helps the Mighty Oak Survive

When it comes to reproduction, one of the mightiest members of the forest is also one of the most mysterious.

At unpredictable intervals, groups of oaks, usually recognized for strength and longevity, breed like rabbits. The phenomenon is known as mast, or the simultaneous production of unusually large numbers of acorns by a population of trees.

### THE NUMBERS

**JO CRAVEN MCGINTY**

It's impossible to anticipate a mast year because scientists aren't sure what triggers it, and few places collect the data necessary to verify when it occurs, but this year, oak trees on Long Island and some species in central Pennsylvania are dropping acorns like there's no tomorrow.

"I think they're having a super mast year, not just a mast year," said Marc David Abrams, a professor of forest ecology and physiology at Penn State referring to the red oaks in his area. "It's like something I've never seen before, and I've been observing trees for 30 years."

The bumper crops are beneficial because they increase the likelihood that a few oak seedlings will reach maturity. But other consequences ripple through the ecosystem. Animals that feed

on acorns will feast on the bounty, and their populations, normally controlled by limited food supplies, will swell. The parasites they support will do the same.

One important beneficiary is the white-footed mouse, the main reservoir of the bacterium that causes Lyme disease. About 10 months after acorns peak in October of a mast year, large numbers of sated mice will begin hosting tick larvae, and about 10 months after that—in May or June the second year after the mast—those larvae will develop into nymphs, which can bite people.

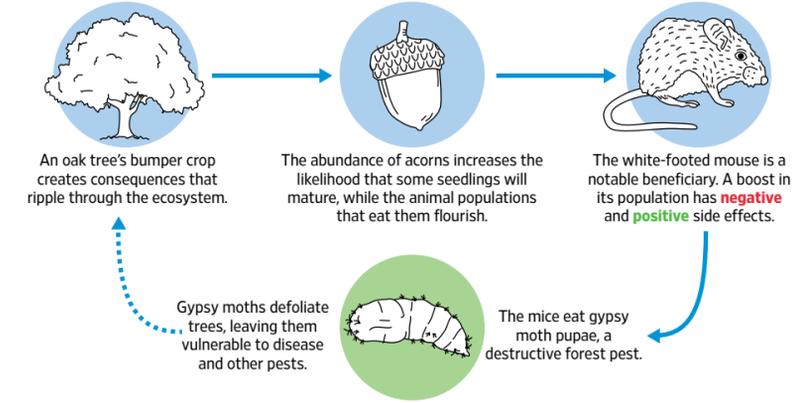
While deer are often associated with ticks that carry Lyme disease, the ruminants don't transmit the infection. Mice do, and when they flourish, the disease will proliferate.

"Having a good cache of this very nutritious food allows mice to have really good overwinter survival and have a jump start on breeding in spring," said Richard S. Ostfeld, a disease ecologist at the Cary Institute of Ecosystem Studies in Millbrook, N.Y. "You might find one or two per acre in a low mouse year. You can get well over 100 per acre in a heavy year."

Last year, New York's Hudson Valley experienced a mast year, said Dr. Ostfeld, who has been counting acorns on the institute's 2,000-acre property since 1992. This year it was over-

### Going Nuts

In 'mast years,' which occur at irregular intervals, oak trees produce an overabundance of acorns. One theory suggests the volume improves the trees' chances of regenerating by overwhelming predators that eat much of the yield in meager years.



Source: Richard S. Ostfeld, Cary Institute of Ecosystem Studies

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run by what he described as a mouse plague. He expects the coming year to be "risky" for Lyme disease, but on the plus side, the mice will chow down on the pupae of gypsy moths, which are one of the country's most devastating forest pests.

There are several theories about what's behind the periodic eruptions of acorns.

Weather and the availability of resources like nutrients in the soil play a role, but

other factors may contribute, say Walter D. Koenig, an ornithologist at Cornell University, and Johannes Knops, a professor of biological sciences at the University of Nebraska-Lincoln, who track mast years in California.

Producing acorns takes a lot of energy, they say, and after a large crop, it's possible the trees, which grow slowly in mast years, must redirect their resources to support new growth. They

and other scientists also hypothesize that the boom helps oaks outmaneuver predators that gobble up their yield in meager years.

"What the oak is trying to do is produce so many acorns that predators like chipmunks, squirrels, deer and birds can eat all the acorns they want, but the tree has produced so many there will be leftovers to produce seedlings," Dr. Abrams said.

One study of the phenomenon, by U.S. Forest Service researcher Patrick Brose, estimated 210,000 acorns per acre fell in Clear Creek State Forest, a 13,500-acre property, in a mast year that affected northern Pennsylvania in 2001.

Dr. Brose tracked the crop over time and found only one in five red oak acorns, the most abundant species, germinated. When an area of the forest had a dense understory, or layer of growth, beneath the main canopy, along with pressure from browsing deer, only 2% of the acorns survived for eight years.

Areas that kept out deer and thinned the understory to make room for seedlings improved survival to 56%, but the oaks' struggle to regenerate was apparent.

"In years when we don't get bumper crops, most of the acorns are consumed or destroyed," said David R. Jackson, a forest resources educator with Penn State Extension.

Increases in the population of deer, which eat both acorns and seedlings, and a century-old forestry policy to eliminate fires that, historically, benefited oaks, make mast years even more important for regeneration.

But for now, scientists, like the rest of us, must simply wait for the trees to stage their next reproductive extravaganza—at a time to be determined.

## JOBS

Continued from Page One

The jobs report was the last major reading on the health of the U.S. economy before Election Day. But coming just four days before the election and after millions of votes already have been cast, it will likely have a muted impact on the course of the campaign.

Democratic presidential nominee Hillary Clinton called the report "good news" at an appearance in Pittsburgh, adding that "our economy is poised to really take off and thrive."

Republican candidate Donald Trump told a rally in New Hampshire that the jobs report was "terrible," pointing to last month's rise in the number of people not in the workforce. He called the unemployment rate a "phony" number.

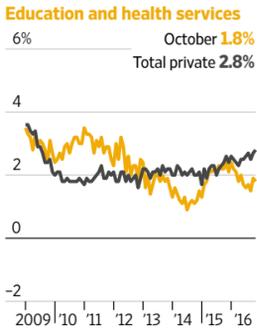
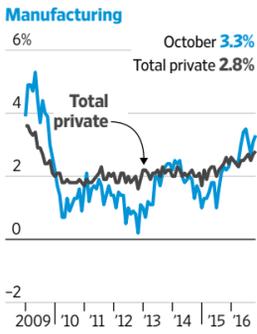
The Fed signaled this week it was moving toward a rate increase at its Dec. 13-14 policy meeting, an intention likely reinforced by October's labor-market data including the strong wage growth. Chairwoman Janet Yellen has said she expects worker pay will rise as the labor market tightens and employers compete to hire and retain employees.

Signs of a firming job market would reinforce the Fed's expectation that long-sluggish inflation is headed back toward the central bank's 2% annual target.

"For me, there is a relatively high bar at least in pure economic terms, a relatively high bar to not moving in December," Federal Reserve Bank of Atlanta President Dennis Lockhart told reporters Friday in Orlando. But, mentioning the election, he said that "there are other things that go on in the world that can give pause, and I don't completely

### Moving Up

Average hourly earnings for private-sector workers rose 2.8% in October from a year earlier, the largest rise since June 2009. Earnings growth has picked up in high-pay fields such as information as well as low-wage sectors like leisure and hospitality.



Note: Seasonally adjusted  
Source: Labor Department via St. Louis Fed

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rule those out."

Mr. Behravesch said there was "a very high likelihood that the Fed will hike in December—unless there's some stock-market convulsion around the election."

The stronger economy and tightening job market are on display at CAD Signs in Hackensack, N.J., which has hired eight people this year—bringing its total to 45—and is looking to add three more. "A lot of new companies are opening up new stores in this area, a lot of rebranding," said President Alex Galeano. "That

brings us a lot of business."

He said as his sign company has expanded, he has seen hiring become more competitive. He raised starting pay to \$12 an hour from \$10, beefed up benefits and started offering raises every six months to staff going through the firm's two-year training program.

"We are constantly under pressure to raise salaries for our guys, to make sure they stay with the company," Mr. Galeano said. "You have to. Otherwise, you lose the good employees you already

trained."

A stronger labor market is benefiting job seekers, too. Greg Belscher of Sandwich, Mass., was a Sports Authority store manager when the bankrupt chain liquidated its remaining locations in July.

But after a few months of unemployment, the 61-year-old on Monday started a new job at another retail chain where he is training to become a store manager. He said he is "quite content" with the pay and benefits in his new job. "I believe that I am lucky," Mr. Belscher said.

Hiring over the past three months averaged 176,000, above the level many economists believe is necessary to keep pace with population growth. Nonfarm payroll growth has averaged 181,000 a month so far in 2016, decelerating from the 2015 pace of 229,000 a month.

The unemployment rate has held at or below 5% for 13 straight months, pinned in place by a rise in labor-force participation over that period, despite last month's downtick in the size of the workforce. The participation rate in October, 62.8%, was down from 62.9% in September but up from 62.5% a year earlier.

Job gains were uneven last month. Employment in goods-producing industries was unchanged from September while private-sector service firms added 142,000 positions and public payrolls rose by 19,000.

Hurricane Matthew, which battered the southeastern U.S. last month, may have skewed some figures in Friday's report. Some 238,000 employed people didn't work last month due to bad weather, the agency reported, more than five times the October average of 44,000 over the prior decade.

—Michael S. Derby contributed to this article.

## U.S. Watch

### NATIONAL SECURITY

#### Officials Investigating Possible Terror Plot

Law-enforcement, national-security and intelligence officials are watching for potential threats timed around Tuesday's election, chasing a tip about a possible terrorist plot and trying to guard against cyberattacks.

U.S. officials have issued a warning to law-enforcement agencies about a potential attack next week, though investigators are still trying to determine the credibility of the information, according to people familiar with the matter.

That advisory says the Federal Bureau of Investigation is pursuing information that the al Qaeda terrorist group could be planning attacks on Monday. Areas discussed as possible targets were New York, Texas and Virginia.

An FBI spokesman said authorities were prepared for any potential attack. New York Mayor Bill de Blasio said he had been briefed about possible terrorist threats.

The threat is "very vague," he said. —Devlin Barrett and Mara Gay

### MEDIA

#### Jury: Rolling Stone Defamed UVA Official

Federal jurors on Friday dealt a potentially costly legal blow to Rolling Stone magazine and a reporter in a defamation trial over its discredited 2014 story about an alleged fraternity-party gang rape at the University of Virginia.

A 10-person jury in Richmond, Va., found that Rolling Stone defamed a university administrator who was in charge of handling

student complaints of sexual misconduct at the school.

The case centered on journalist Sabrina Rubin Erdely's article, "A Rape on Campus," which described an alleged brutal sexual assault of a female college student at a UVA fraternity house and depicted school officials as indifferent to her plight.

In a lawsuit filed last year, then-UVA Associate Dean of Students Nicole Eramo alleged that the article and interviews Ms. Erdely gave about her reporting cast the administrator as a villain and falsely asserted that she discouraged a student identified only as "Jackie" from taking her rape allegations to the police.

Key to the verdict against Rolling Stone itself was its delayed decision to retract the story, according to the jury's verdict form.

Ms. Eramo is seeking \$7.5 million. Her lawyer said she could demand more money, and jurors could award a higher sum when they consider damages next week.

—Jacob Gershman and Jeffrey A. Trachtenberg

### TENNESSEE

#### Ex-Vanderbilt Player Sentenced Over Rape

Brandon Vandenburg, a former Vanderbilt University football player, was sentenced Friday to 17 years in prison for his role in the rape of an unconscious woman more than three years ago.

Mr. Vandenburg was the second former student-athlete to be sentenced in the case. Cory Batey was sentenced to 15 years this summer for his role in the June 2013 incident. Neither of them will be eligible for parole, a Davidson County District Attorney spokesman said.

Cases against Jaborian 'Tip' McKenzie and Brandon Banks are still pending. Mr. Banks has a hearing scheduled next week.

Albert Perez Jr., one of Mr. Vandenburg's attorneys, said he plans to file a new-trial motion. —Melissa Korn

## CORRECTIONS & AMPLIFICATIONS

**Whole Foods Market Inc.** on Wednesday reported its first annual drop in comparable sales since 2009. A Page One What's News summary Thursday incorrectly said it was the first such annual decline.

**The Los Angeles Rams** changed the color scheme of their uniforms in 1964 to white and blue, from yellow and blue. Yellow was brought back in 1973. Those years were incorrectly given as 1965 and 1979 in a Sept. 6 U.S. News article about the Rams' return to Los Angeles from St. Louis.

**An Off Duty article** on Oct. 8 about singer-songwriter No-

rah Jones's tech essentials misspelled Moleskine as Mole-skin in referring to a brand of notebook.

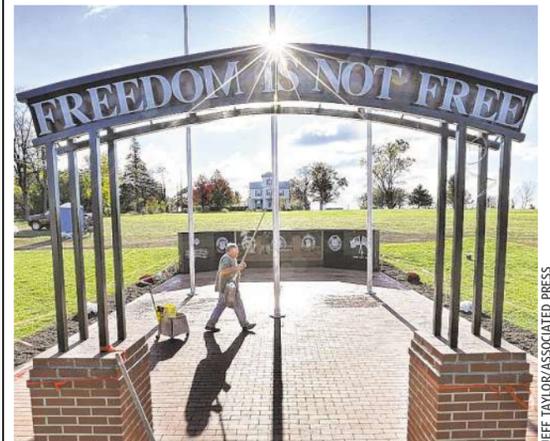
**Amperage and amp hours** are both measures of a battery's capacity, but the terms aren't synonymous. An Off Duty article on Oct. 15 about power tools incorrectly stated that the terms are synonymous.

**Diana Widmaier-Picasso** was alone when "Maya With Doll and Horse" and "Portrait of Jacqueline," paintings by her grandfather Pablo Picasso, were stolen from her Paris home in 2007. An article in the November edition of WSJ.

Magazine about Ms. Widmaier-Picasso incorrectly said that her mother, Maya Widmaier-Picasso, also was at the home. Separately, an exhibit at Gagosian's Madison Avenue gallery will feature 21 Picasso paintings and one sculpture, dating from 1931 to 1971. The article, which had gone to press before the Gagosian changed plans for the exhibition, said that 22 paintings dating from 1931 to 1972 will be featured.

**Jen Myles** was the makeup artist for the "Minimal Impact" fashion feature in the November edition of WSJ Magazine. The article incorrectly credited Serina Takei.

## Paying Homage to Veterans



LET IT SHINE: Former Middletown, Va., Mayor Raymond Steele cleaned dirty footprints off the brick walkway of the town's new veterans memorial on Friday. A dedication ceremony for the memorial is planned for Veterans Day next week.

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