

Gobble up some turkey science with your holiday meal

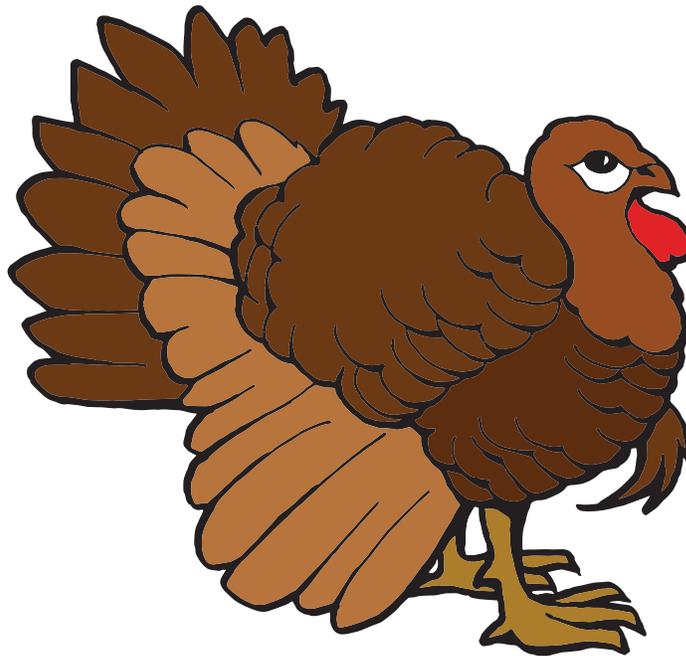
10 terrific turkey facts

The official bird of Thanksgiving has plenty of juicy secrets that go beyond its pairing with cranberry sauce and stuffing. Here's a quick look at the rich biology, history and folklore behind the staple of the harvest celebration. We hope you'll gobble up some turkey science with your holiday meal.

1 They sport beards

The centerpiece of many a Thanksgiving table once sported a beard? Well, sort of. The hair-like bristles that grow from the chests of male turkeys (or gobblers) and some hens are actually specialized feathers called "meso filoplumes" that grow from a single follicle. They can be lengthy, with some bird beards touching the ground, though feeding tends to wear down the ends, according to the Pennsylvania Game Commission. Some birds have two: Gobblers with a whopping eight beards have been spotted, according to the Game Commission, though of the 10 percent of multiple-bearded turkeys, most have just two.

Though scientists aren't certain about the purpose of the filoplumes, they could serve a sensory function: Their movement could send information to birds about "Their tiny movements send information to nerve cells to tell a bird when its contour feathers need adjusting," according to *The Nature of Feathers*.



2 Related to T. rex?

A turkey's wishbone—the one you and your sister pull from opposite ends to see who gets the middle nodule—is formed by the fusion of the bird's two collarbones. Also called a furcular, the bone serves as the connecting point for muscles and a brace for the wings. During the bird's flapping (yes, turkeys can fly at a clip of 50 mph in short bursts), the wishbone acts as a spring to store and release energy. This elasticity is also the reason snapping a wishbone before it dries is so tough. Turns out, the wishbone is more than a fun game for Turkey Day; it also serves as a reminder that birds evolved from a group of dinosaurs. Researchers have found that the wishbone dates back more than 150 million years to a group of meat-eating dinosaurs that includes *T. rex* and *Velociraptor*.

3 They sleep in trees

Because turkeys are so large and heavy—with the heftiest wild turkey weighing 37 pounds (17 kilograms), according to the National Wild Turkey Federation—it's often assumed that these big birds stick to the ground. In fact, turkeys prefer to sleep perched atop tree branches, where they are safe from predators, which include coyotes, foxes and raccoons. They often sleep in flocks, and upon waking, call out a series of soft yelps before descending to make sure that the rest of their roosting group is okay after a night of not seeing or hearing

one another.

4 Female turkeys don't gobble

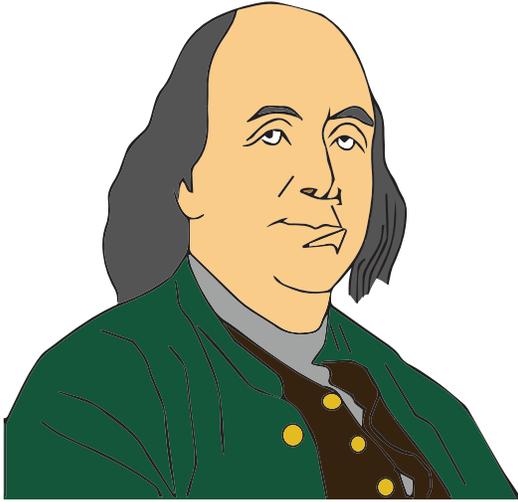
Don't be disappointed if the turkey at the petting zoo refuses to gobble—it's probably a female, which is called a hen. Male turkeys are called gobblers, because they are the only ones that can make that adorable gobbling sound. Each male turkey has his own unique gobbling "technique," which he combines with strutting to attract potential mates. Female turkeys communicate through clucks and small, chirp-like noises.

5 They make you sleepy?

If you feel groggy after an old-fashioned Thanksgiving meal, the bird on your plate may be partially to blame. Turkey meat contains tryptophan, an amino acid that the body uses to make serotonin, a

neurotransmitter in the brain that helps regulate sleep. However, all meat contains tryptophan at comparable levels. Other tryptophan-rich foods include cheese, nuts and shellfish.

What makes the Thanksgiving meal so memorably tiring is the mix of meat with carbohydrates. Carbs from stuffing,



sweet potatoes, bread, pie and sugary sweets stimulate the release of insulin, which then triggers the uptake of most amino acids—except for tryptophan—from the blood into the muscles. With the other amino acids swept out of the bloodstream, tryptophan doesn't have to compete with them and is better able to make its way to the brain to help produce serotonin, which then preps you for sleep.

6 Ben Franklin adored turkeys

Apparently, Benjamin Franklin was a big fan of the humble gobbling bird. According to the Franklin Institute, he wrote in a letter to his daughter:

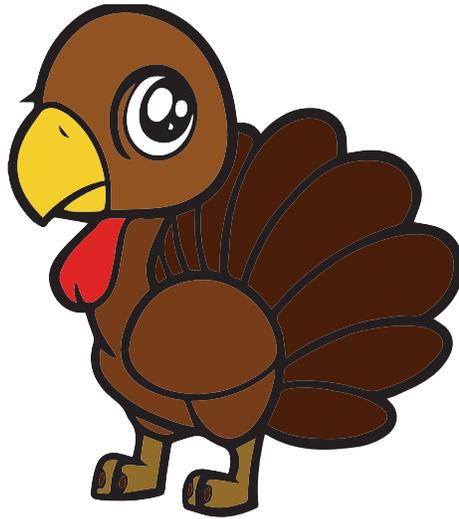
"For my own part, I wish the bald eagle had not been chosen as the representative of our country; he is a bird of bad moral character; he does not get his living honestly...like those among men who live by sharpening and robbing...he is generally poor, and often very lousy. Besides, he is a rank coward; the little king-bird, not bigger than a sparrow, attacks him boldly and drives him out of the district...For in truth, the turkey is in comparison a much more respectable bird, and withal a true original native of America. Eagles have

been found in all countries, but the turkey was peculiar to ours..."

7 Wild turkeys can fly

Wild turkeys can fly for short bursts at speeds of up to 55 miles per hour (89 kilometers per hour). However, they aren't often spotted soaring through the sky because they prefer to feed on the ground, where they peck at grass, seeds, acorns, nuts, berries and small insects such as grasshoppers.

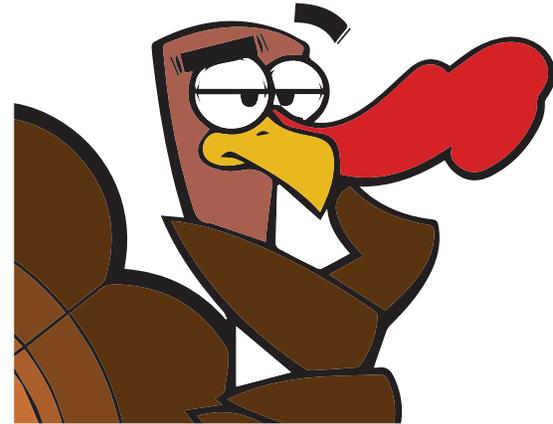
The myth of turkeys' inability to fly may have stemmed from the fact that many domestic turkeys, such as the broad-breasted white turkey—which is the most widely used breed commercially—cannot fly; they are too weighed down by their own meat. These birds have been selectively bred to be much heavier and possess a larger, broader breast, the weight of which keeps them perpetually grounded.



8 They have periscopic vision

As many hunters know, a turkey has excellent vision. Because its eyes are on the sides of its head, the turkey has periscopic vision, which allows it to see objects that are not in its direct line of vision. By rotating its head, the turkey has a 360-degree field of vision, according to James G. Dickson's book, *The Wild Turkey: Biology and Management*. Wild turkeys have the ability to detect movement and assimilate detail very quickly. Their excellent daylight vision is often relied on when hearing is impaired by wind and rain.

Wild turkeys overcome their monocular vision by turning their heads to better judge distance. The bird also has better peripheral vision than humans.



9 They blush

When a turkey becomes frightened, agitated, excited or ill, the exposed skin on its head and neck can change from its usual pale pink or bluish gray color to red, white, or blue. And during mating season, the male turkey's wattle turns scarlet to reflect his elevated sex hormone levels. The fleshy flap of skin that hangs over the gobbler's beak is called a snood and also turns bright red when the bird is excited.

10 They have stones in their stomachs

Here's one part of the turkey that the kids definitely won't be fighting over at the Thanksgiving table: A part of the bird's stomach, called the gizzard, contains tiny stones that the bird has previously swallowed. Also known as gastroliths, these polished stones aid in the breakdown of food for digestion, since birds do not have teeth.

They do, however, have two stomachs, the first of which is called the glandular stomach, where food is softened and broken down by gastric juices. The food then enters the turkey's gizzard, which is extremely muscular and further dissolves the food by grinding it against the gastroliths before moving the mulch along into the intestines or back into the glandular stomach for a more thorough digestion. ■