

Cow tipping myth dispelled

The Telegraph (<https://www.telegraph.co.uk/news/science/science-news/10289862/Cow-tipping-myth-dispelled.html>) · by Harriet Barber

The idea that drunk men are able to steal into fields and shove sleeping cows onto their sides is not only absurd but scientifically implausible, researchers claim.

Even if urban legends were right and the animals did sleep standing up – which they do not – it would still take at least two strong men to overturn one, and as soon as the cow responded by bracing itself the task would become even trickier.

In practice it would take six people of average strength to generate enough force to topple a cow, even in the unlikely event the animals allowed such a group to get close enough.

Margo Lillie, a doctor of zoology from the University of British Columbia, and her student Tracy Boechler told *Modern Farmer* (<http://modernfarmer.com/2013/09/cow-tipping-myth-or-bullcrap/>): “It just makes the physics of it all, in my opinion, impossible.”

The researchers analysed the mathematical plausibility of cow tipping in a 2005 paper using Newton's Second Law, which states that force is equal to mass multiplied by acceleration.

Taking a cow's weight to be 682kg (1,503lb), and accounting for a pushing angle of 66 degrees, they calculated that to shove over a cow of normal height would require 1,360 Newtons of force.

A typical person weighing 145lb (66kg) can produce a force of about 660n, meaning they would need at least one accomplice to push over a cow which was standing still and made no effort to resist, they found.

Considering the cow's ability to brace itself by leaning into the push, however, an estimate of five strong people, or six of average strength, is more realistic, they said.

Dr Lille added that she "couldn't believe" the number of readers who debated the article when it was first published online.

"Someone, I think he was in Texas, said you can do it if take you take a run at the cow and got somebody [down low] on the other side of the cow," she said, which would prevent the cow from bracing itself by shifting its stance.

"That's cheating, but that's a way of doing it ... of course, the guy on the other side of the cow has to move very quickly to get out of the way, which is a stupid thing to do. But the whole thing is just a stupid thing to do from the get-go."

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