

Will a cold winter kill off ticks?

9 February 2018, by Matt Shipman



The black-legged tick, or deer tick, (*Ixodes scapularis*) is the primary culprit for spreading Lyme disease. Photo credit: AFPMB

The bad news is that even particularly harsh winter weather – like that experienced by much of the East Coast this year – won't kill off ticks. They are hardy little critters. However, a brutal winter could still have an effect on tick populations. Maybe.

Let's start with how ticks deal with the seasons.

There are some tick species – like the black-legged tick (*Ixodes scapularis*) that's the primary culprit for spreading Lyme disease – that normally have a two-year life cycle. Eggs hatch into bloodsucking larvae in the spring. When [weather](#) gets cold, the larvae will dig into soil, leaf litter or rotten wood to await spring and warmer weather. After emerging, they will molt into their nymph stage (assuming they've gotten enough blood meals). The blood sucking nymphs molt into bloodsucking adults in late summer or early autumn before overwintering again. The adults emerge the following spring and lay the next generation of eggs before dying.

Other tick species, such as the lone star tick (*Amblyomma americanum*), typically go through

their entire life cycle in a single year, overwintering in their nymph or adult stages and laying eggs the following [spring](#).

But, as with so many living things, there's a lot of variability in this pattern.

In warmer parts of the country, or during particularly warm weather, even "two-year" ticks can go through their entire life cycle in less than a year – assuming they can find hosts to provide the blood meals they need to transition from one [stage](#) to the next.

In other words, a black-legged tick could go through its two-year [life cycle](#) in less than 12 months if the conditions are right.

In practical terms, this means that an especially cold winter won't kill off ticks, but harsh conditions could slow them down. For example, colder temperatures could cause ticks to emerge later, giving them less time to feed and [cycle](#) through their life stages. Or, if the [winter](#) takes a toll on wildlife – such as mouse or deer populations – there may be fewer hosts for ticks feed on.

Will that be the case this year? Only time will tell.

You may have noticed that there are a lot of "maybes" here. That's because, as far as we could tell, nobody has studied the extent to which cold weather affects [tick](#) populations – or at least they haven't published their findings.

Provided by North Carolina State University

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