

Laura Phillips
District Extension Agent, Horticulture

Red Meat Allergy – A Tick-Borne Illness

Recently I wrote a news column about the different tick-borne illnesses that you may encounter in Northeast Kansas. One of those illnesses stands out from the others, as it is not a bacteria or virus. You may know it as the “red-meat” allergy, but its real name is alpha-gal syndrome. It is becoming more common in Kansas, with over 500 cases reported between 2023 and 2024, mostly in the eastern portion of the state.

In the United States, alpha-gal syndrome is primarily transmitted by the lone star tick. These ticks are easy to identify as adults: the females have a white spot on their back, and the males have small white patches on the edge of their back.

Alpha-gal is a molecule that is found in the saliva of the lone-star ticks. It is also naturally found in most mammals, but not in humans. When the tick’s saliva enters your bloodstream, the alpha-gal in its saliva can trigger an immune response, which causes your body to release chemicals that cause an allergic reaction. Once a tick has exposed you to alpha-gal via your bloodstream, your body can become sensitive to alpha-gal overall. We call this sensitivity to alpha-gal molecules “alpha-gal syndrome.” With this condition, your body will have allergic reactions to consuming products that contain alpha-gal molecules, such as beef, pork, dairy, and even certain medications.

It is important to note that while most mammals have alpha-gal in them, consuming meat or generally being exposed to alpha-gal from mammalian products does not cause alpha-gal syndrome since these products do not release the molecule into your bloodstream. The ticks cause alpha-gal syndrome because they do release alpha-gal into your bloodstream. However, not everyone who is exposed to alpha-gal from ticks will develop this sensitivity.

When you have alpha-gal syndrome, the allergic reaction is typically delayed; you may not experience an allergic reaction for 3 to 6 hours after eating animal products with alpha-gal in them. This reaction can show up as hives, nausea, heartburn, congestion, or even anaphylaxis. Reactions can be anywhere from mild to life-threatening. It is important to seek medical attention immediately if you have severe symptoms. The delay between eating meat and developing an allergic reaction can make it tricky to pinpoint alpha-gal as the allergen.

Unfortunately, there is not currently a treatment for alpha-gal syndrome. Some individuals have outgrown the condition and slowly can re-incorporate mammalian products, but there is no guarantee that alpha-gal syndrome will resolve. If you have alpha-gal syndrome, it is important to avoid possible exposure to ticks, as another bite from the lone-star tick could exacerbate the issue.

The best thing to do is prevent tick bites as much as possible. Wearing bug spray and avoiding thick vegetation can help lower the odds of a tick bite. If you are bitten by a tick, use fine tipped tweezers to grasp the head of the tick and pull it out. Do not agitate the tick, burn it, or grasp it with your fingers. Agitating it or squeezing the body can cause the tick to spit more saliva into your bloodstream. Once you have removed a tick from your body, photograph or save the tick (freeze or kill it with rubbing alcohol) in case you need to identify it later.

If you suspect that you may have a tick-borne illness, talk to your doctor immediately