



** This news release from K-State Research and Extension is available online at <https://ksre-learn.com/alpha-gal-syndrome-explained>

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K-State experts team up to educate Kansans about alpha-gal syndrome

Humans may contract red meat allergy from tick bite

By Pat Melgares, K-State Research and Extension news

MANHATTAN, Kan. – Kansas State University researchers and extension specialists have teamed up on a project to help alleviate the negative impacts of an allergy to red meat that affects a growing number of people.

K-State Research and Extension nutrition and wellness specialist Priscilla Brenes said alpha-gal syndrome – the term used to describe patients who develop an allergic reaction to dietary red meats and mammalian related products – is becoming more common across Kansas, especially in rural areas.

[According to the U.S. Centers for Disease Control](#), alpha-gal syndrome can occur after a tick bite. A primary culprit is the Lone Star Tick, which is more prevalent in southern, eastern and central states.

Symptoms occur after people eat red meat or are exposed to other products made from mammals, and may include:

- Hives or itchy rash.
- Nausea or vomiting.
- Severe stomach pain.
- Heartburn or indigestion.
- Diarrhea.
- Cough, shortness of breath, or difficulty breathing.
- A drop in blood pressure.
- Swelling of the lips, throat, tongue or eyelids.
- Dizziness or faintness.

In late 2024, Brenes surveyed extension agents in Kansas to gauge their awareness of alpha-gal syndrome.

“The majority of those who responded indicated that there is not enough information available regarding AGS,” she said. “They want to know more about this topic so that they can educate the people in their communities.”

Michael Chao, a meat scientist at Kansas State University, said part of that process includes helping people understand how they can reintroduce red meat into their diet. [A report from the Yale School of Medicine](#) indicates that the levels of antibodies that cause the allergic reaction decline over time, and some people are again able to eat red meat without an allergic reaction.

Using mice models similar to humans, Chao is conducting research to test the reaction of numerous meat products -- hot dogs, steak, jerky and others – in those who are affected by AGS.

“In this way, we can find a better relationship between eating red meat and humans’ response to it,” Chao said. “Our hope is that we can use that information to help people reintroduce red meat into their diet when they’re ready for it.”

K-State entomologist Yoonseong Park said that while the Lone Star Tick is the main culprit in causing AGS in humans, studies indicate that less than 10% of those bitten by that tick actually develop the allergic reaction to red meat.

He adds that like any allergy, people may have varying levels of sensitivity to the allergen: “Some people are not very sensitive,” he said, “and might be able to eat some levels of red meat.”

However, anyone who suspects they have developed an allergic reaction to AGS – and especially those who have become highly sensitive to red meat and related products -- should consult with a physician. In extreme cases, the allergen could cause death in AGS patients.

“I’m an entomologist, and so my advice to people who want to avoid this allergen is to just not be bitten by ticks,” said Park, noting that Lone Star Tick activity picks up in Kansas in April and early spring.

Brenes said the state’s extension service will be conducting another survey of consumers, this time encouraging residents in the state’s 105 counties to participate. Those who participate in the survey will receive a financial incentive, she said.

More information is available at [local extension offices in Kansas](#) and online at <https://k-state.edu/ags>.

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FOR PRINT PUBLICATIONS: Links used in this story

Alpha-Gal Syndrome (U.S. Centers for Disease Control and Prevention), <https://www.cdc.gov/alpha-gal-syndrome/about/index.html>

Alpha-Gal Syndrome (Yale Medicine), <https://www.yalemedicine.org/conditions/alpha-gal-syndrome-ags>

K-State Research and Extension statewide offices, <https://www.ksre.k-state.edu/about/statewide-locations>

Alpha-Gal Syndrome (K-State Entomology), <https://k-state.edu/ags>

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