



\*\* This video release from K-State Research and Extension is available online at <https://ksre-learn.com/nanotechnology-eggshell-pesticide>

Released: Nov. 5, 2024

**Video: Entomologists use a waste product -- eggshells -- to control flour beetles**

*K-State Research and Extension news service*

[In this video](#), Kansas State University inorganic chemist Amy Norton explains how entomologists developed a pesticide solution using nano-particles derived from a waste product -- eggshells -- to kill the red flour beetle.

"We're using a cheap commodity, the eggshells, to eradicate a pest," Norton said. "This can be used very easily (using nanotechnology), and so we're trying to expand upon this idea and see if it works just as well with other stored product pests out there."

The process involves drying and grinding eggshells into nano particles using a ball mill. Experiments revealed that these nano particles achieved a 100% kill rate on adult red flower beetles, outperforming the organic pesticide Spinoso, which only killed 50%.

K-State scientists say this method is cost-effective and could be expanded to other pests, offering a potential organic alternative to traditional pesticides.

View the full video at <https://youtu.be/vrVjHmPyLv8>.

-30-

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the wellbeing of Kansans. Supported by county, state, federal and private funds, the program has county extension offices, experiment fields, area extension offices and regional research centers statewide. Its headquarters is on the K-State campus in Manhattan. For more information, visit [www.ksre.ksu.edu](http://www.ksre.ksu.edu). K-State Research and Extension is an equal opportunity provider and employer.

**Video by:**

Dan Donnert  
785-532-5804  
[ddonnert@ksu.edu](mailto:ddonnert@ksu.edu)

**For more information:**

Amie Norton  
785-532-5164  
[amien@ksu.edu](mailto:amien@ksu.edu)

Thomas Phillips  
785-532-5164  
[twp1@ksu.edu](mailto:twp1@ksu.edu)