

# Helpful yeast battles food-contaminating aflatoxin

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Pistachios, almonds and other popular tree nuts might someday be routinely sprayed with a yeast called *Pichia anomala*. Laboratory and field studies by Agricultural Research Service (ARS) plant physiologist Sui-Sheng (Sylvia) Hua have shown that the yeast competes successfully for nutrients--and space to grow--that might otherwise be used by an unwanted mold, *Aspergillus flavus*.

*A. flavus* and some other *Aspergillus* species can produce troublesome toxins known collectively as aflatoxins.

Hua has received a patent for use of the yeast as an eco-friendly way to protect tree nuts, as well as corn, from becoming contaminated with aflatoxins. Standards set by the U.S. [Food and Drug Administration](#) help prevent sale of aflatoxin-contaminated food and feed.

In tests conducted in a California pistachio orchard, Hua and colleagues found that spraying the trees with the yeast inhibited incidence of *A. flavus* in pistachios by up to 97 percent, compared to unsprayed trees.

The yeast can also be sprayed on the harvested or stored crop instead of on trees before the harvest, according to Hua, based at the ARS Western Regional Research Center in Albany, Calif.

Besides inhibiting the *A. flavus* fungus, the versatile [yeast](#) may also be effective in protecting other crops against any of at least half a dozen other species of [microbes](#) that can ruin a food's taste, texture, yield,

safety or other attributes. Those microbes include, for example, *Botrytis cinerea*, which causes [gray mold](#) of table grapes.

ARS is the principal intramural scientific research agency of the U.S. Department of Agriculture. Hua's research is one of many studies conducted at ARS labs nationwide to support the USDA priority of food safety.

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