

Research project studies fungi found in popular drink

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(Phys.org) —A research project at Indiana State University into a popular packaged drink has found five types of fungus.

Kathleen Dannelly, associate professor microbiology, said one previous study published online found only one [fungus](#) in Capri Sun, the popular drink manufactured by Kraft. However, the research in Dannelly's lab

found five different [fungi](#).

"As far as I can tell, the fact that they don't put preservatives in this is really allowing lots of fungi to survive the drink process," she said.

Dannelly became interested in researching the drink after a television reporter contacted her regarding an object found in a package of Capri Sun by a Terre Haute family.

"A father had brought it to him and was very upset about what was this large ugly thing in his child's drink," Dannelly said. "So we took it from there and determined it was a fungal mat."

A further investigation found other online reports of other fungal mats found in Capri Sun.

"I got really interested after seeing it to take this further and see how prevalent it was in the drink," Dannelly said.

Dannelly recruited senior biology major Leah Horn from St. Louis to conduct the research. Horn has spent the past year filtering Capri Sun through a [vacuum](#) and seeing if any fungal [microbes](#) remained behind and grew on [filter paper](#). She found five - three from the tropical punch flavor, one from the Roaring Waters flavor and one from the fruit punch flavor.

"They are all five different species. We're not 100 percent sure which ones they are," Horn said. "We're still testing."



Kraft operates a website answering questions concerning mold found due to breaches in packaging and a lack of preservatives in the drink. The company has assured worried [consumers](#) that the fungi are not harmful to humans. In the Frequently Asked Questions page about Capri Sun and the mold, the company stated, "While unpleasant, it is more of a quality rather than a [safety issue](#). However, we take consumer concerns very seriously. When we had the opportunity to look at a sample in the past, we have sent it to a leading, accredited lab for testing. They independently confirmed it was mold. Because this product contains no preservatives, the beverage can spoil and mold can grow."

"The significance of this is that for the majority of people, other than being grossed out when you open a package and it has a large fungal mat, which is a really nasty looking thing, it will probably not hurt you,"

Dannelly said. "However, in patients who are immune-compromised and some other underlying diseases, this could create a health concern for them."

For the next stage of testing, Dannelly and Horn plan to test the theory that the fungal mats grow in compromised packages.

"We're just going to puncture these Capri Sun packages and see if there are spores already in there, which we think is already the case, and see if we can get those mats to grow," Horn said.

Dannelly said their theory is that a gas put into the packages removes oxygen, which the fungi need to grow.

"Maybe what happens is that the package just gets breached enough, not a big hole, a tiny pin hole that's enough to let air and oxygen in so that gives fungi room to grow, what they need to grow, then you get fungal mats," Dannelly said. "Maybe that's why it's only occasionally there's the large growth of an organism."

Such a project proved perfect for undergraduates to research, according to Dannelly.

"When you start with these projects that are more about microbes, especially microbes in food or in water, they're easy to understand and very exciting because this is so close to home," she said.

Horn said the research has given her a better understanding of what happens in a lab.

"I can take things people have said and apply them for myself," she said. "It's a really rewarding experience."

Provided by Indiana State University

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