

26 percent of herbs eaten in Spain are contaminated with bacteria

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Up to 20 percent of spices and 26 percent of herbs analyzed were contaminated by various bacteria. Credit: SINC

A research team from the University of Valencia has discovered that up to 20% of spices and 26% of herbs sold in Spain are contaminated by various bacteria, reducing their quality. The study, which is the first of its kind in Spain, suggests that health and hygiene control systems should be put in place, from cultivation of these products right through to when they reach the market.

Scientists from the University of Valencia have for the first time studied the microbiological quality of 53 samples of spices and herbs such as thyme and oregano sold at Spanish markets.

The results, which have been published in the journal *Plant Foods for*

Human Nutrition, show that 10% of spices are contaminated with mesophilic aerobic microorganisms and 20% with enterobacteriaceae. The contamination level in aromatic herbs was 26% for both these kinds of bacteria.

The studies detected the presence of bacteria from the genres *Acinetobacter* (*A. calcoaceticus*), *Enterobacter* and *Shigella*. Species of [microorganisms](#) such as *Yersinia intermedia*, [Staphylococcus aureus](#) and *Hafni alvei* were also found.

Greater product quality control needed

"Herbs and spices are exposed to a wide variety of contaminants both before and after production, and can contain high levels of [bacteria](#)", the researchers say.

Since the results display "poor microbiological quality" in approximately 25% of the samples analysed, the authors recommend that "health controls should be improved during the production of herbs and spices, in order to prevent health risks".

The study shows that several variations can turn up in a single species of [herb](#) or spice, "probably because the production and cultivation conditions are not the same" in different regions. The composition of the essential oils from herbs and spices varies according to geographical region, age, type, and the drying method used.

Some of the samples analysed, such as thyme, displayed good hygiene-health quality, probably due to the presence of essential oils with antibacterial properties.

More information: Isabel Sospedra, Jose M. Soriano, Jordi Mañes.
"Assessment of the Microbiological Safety of Dried Spices and Herbs

Commercialized in Spain". *Plant Foods for Human Nutrition*, 65: 364-368, Dec 2010. [Doi:10.1007/s11130-010-0186-0](https://doi.org/10.1007/s11130-010-0186-0)

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