

Coriander Oil May Protect Against Harmful Bacteria: Study

By Nathan Gray, NUTRA Ingredients

The use of coriander oil in foods could prevent bacterial spoilage and food-borne illnesses, according to new research.

Writing in the *Journal of Medical Microbiology*, the authors of the study report that solutions containing as little as 1.6% coriander oil showed promising results in killing off or reducing the growth of bacteria strains, including *Escherichia coli*, *Salmonella enterica*, *Bacillus cereus* and methicillin-resistant *Staphylococcus aureus* (MRSA).

“Our results showed that coriander oil has an effective antimicrobial activity against all bacteria tested. Also, coriander oil exhibited bactericidal activity against almost all bacteria tested, with the exception of *Bacillus cereus* and *Enterococcus faecalis*,” said the researchers.

The researchers, led by Dr Fernanda Domingues from the University of Beira Interior in Portugal suggest that coriander oil could have important applications in the food industry.

“In developed countries, up to 30% of the population suffers from food-borne illness each year. This research encourages the design of new food additives containing coriander oil that would combat food-borne pathogens and prevent bacterial spoilage,” said Domingues.

Study details

The research team assessed the antimicrobial action of coriander oil against Gram-positive and Gram-negative bacteria using flow cytometry to investigate the effects of the oil on bacterial membrane and cellular functions.

In addition to showing that coriander oil also has a powerful antibacterial effect, the study findings also provide an explanation for how it works, with the researchers reporting that the coriander oil damages the membrane surrounding bacterial cells.

“This disrupts the barrier between the cell and its environment and inhibits essential processes including respiration, which ultimately leads to death of the bacterial cell,” explained Domingues.

The authors said that the results, “showing a potent antibacterial activity against Gram-positive and Gram-negative bacteria due to membrane permeability”, are significant and justify the use of coriander oil, “not only as a food flavouring agent, but also as a food preservative in order to prevent bacterial spoilage of foods.”

“The application of this essential oil may be further enhanced by the formulation of delivery systems capable of improving its performance,” they added.

Source: *Journal of Medical Microbiology*