

Fumaric Acid in Antimicrobial Sprays or Dips for Fresh Fruits and Vegetables

The hydrophobic nature of fumaric acid makes it an effective antimicrobial agent. Hydrophobicity is important because the microbial cell wall normally contains lipid material. Hydrophobic organic acids can interact with this lipid material in a way that disrupts microbial activity.

More Effective than Lactic or Acetic Acids in Pathogen Reduction

Salad vegetables (cabbage, cucumbers, carrots and radishes) treated with Fumaric Acid showed a reduction of 2 log cycles after two days for the following pathogens: *E.Coli O157:H7*, *Listeria monocytogenes*, *Staphylococcus aureus*, and *Yersinia enterocolitica*. Acetic and Lactic Acids achieved a reduction of about 1 log cycle for these pathogens under the same conditions.

Reference: Ohson M. et al. 1999. Growth and Inhibition by Acids of Five Species of Pathogenic Bacteria Inoculated in Salad Vegetables. Journal of the Food Hygienic Society of Japan 40(4): 297-303.

RECOMMENDATIONS FOR USE: Use 0.20-0.30%; dissolve in the spray or dip after benzoates, if used, have been completely dissolved.

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