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*Chemical Food Preservatives: How Effective Are They At Retarding Bacterial Growth?*

The effectiveness of three most commonly used chemical food preservatives; sodium nitrate, benzoic acid and calcium propionate at retarding the growth of bacteria were investigated. It was hypothesized that such chemicals are minimally effective and therefore argued that their use as food preservatives should be banned whenever possible or at least severely restricted due to the potential health risks they pose to humans. A low and a high concentration of the chemical compounds were tested on *Escherichia coli* and *Salmonella serotype enteritidis* bacteria. The results showed that the chemical compounds formed a very small 'zone of effect' and are considered to be only marginally effective at retarding bacterial growth. No apparent significant differences were found among the two concentration levels for all three compounds. The implications as well as alternative research experiments are discussed.