

Organic Acids and Their Role in Reduce Foodborne Pathogens in Food Animals

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Organic acids (OA) are used since long as food preservative agents, and, in more recent times, as feed additives. The compelling need to use OA in feed date back to the last two decades since the extensive use of antibiotics in farming, both growth promoters (AGP) and therapeutics, caused concerns on the incidence of antibiotic-resistant bugs and posed the urge to find alternative solutions. Feeding dietary OA to animals produced positive effects over a 25-years period, allowing the achievement of good results, even though not as good as AGP. Nevertheless, OA demonstrated to own all the characteristics necessary to be the most promising alternative to AGP and to have the highest cost-benefit ratio compared to other alternative compounds available on the market (Mroz et al., 2003). The efficacy of OA as growth promoters has been linked to impairment of growth of intestinal microflora and therefore to their antimicrobial properties. Nowadays there is an increasing interest in looking forward to the use of OA also from a food-safety perspective, ie to take advantage of their "natural" antimicrobial power and target it toward the prevention or treatment of intestinal colonization by specific foodborne pathogens, such as Salmonella, Campylobacter, E. coli, etc. even though this application of OA is still under investigation and far to be conclusive.

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