

# The Microbial Condition of Dried Aromatic Plants after Exposure to Ozone

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## BRIEF REPORT

The Aromatic plants have a variety of bioactive chemicals that make them valuable additions to the human diet and health. Plants like oregano, lemon verbena, thyme, mountain tea, and chamomile, on the other hand, harbour a variety of microorganisms that can compromise food safety and human health. They can be contaminated by bacteria during cultivation, harvesting, processing, and distribution, in particular. As a result, when infused or added to ready-to-eat meals, the presence of a high level microbial load, including pathogenic bacteria and microorganisms that can create toxins, makes the plant material a possible health danger.

The rising threat of food-borne pathogens such as *Salmonella* spp. and *Escherichia coli* O157 has increased consumers awareness for consumption of safe foods. In food industry, *E. coli*, *Enterococcus* spp. and *Enterobacteriaceae* are used as indicator organisms for the assessment of microbiological food safety. Moreover, there is a continued risk of mycotoxins production, since fungal growth and mycotoxin production can occur on plant material before or after harvesting, during storage and/or distribution. Thus, the determination of microorganisms present on plants is the pivotal step to choose the appropriate disinfection methodology in order to ensure safety of plants used in ready-to-eat meals. Ozone is a successful sanitizer with exceptionally high oxidation decrease potential. Specifically, it is perceived as an amazing and harmless to the ecosystem antimicrobial specialist that inactivates microorganisms e.g., microbes, organisms, infections and protozoa, through oxidation. *E. coli*, *Enterococcus* spp. what's more, *Enterobacteriaceae* decrease during handling is of high significance for food industry and customers since end of those microbes means

that great clean quality. The point of this review was to examine the impact of 30 and 60 min vaporous ozone treatment at 4 ppm (2.6 L min<sup>-1</sup>) on microbial heap of dried sweet-smelling plants material. Moreover, the growths assurance previously, then after the fact ozone medicines give us a sign of which growths species persevere ozone treatment. At last, ends will be drawn with regards to the effectiveness of ozone on the microbial defilement of dried sweet-smelling plants.

Fragrant plants might be sullied with a wide scope of microorganisms making them a potential wellbeing risk when implanted or added in prepared to-eat suppers. To guarantee security, the impact of vaporous ozone treatment on the populace of oxygen consuming plate counts (APC), clean markers (*Escherichia coli*, *Enterococcus* spp. furthermore, *Enterobacteriaceae*) and organisms was explored for five dried sweet-smelling plants; for example oregano, thyme, mountain tea, lemon verbena and chamomile. Determination, detachment, and further organisms distinguishing proof depended on the phenotypic and full scale and minuscule attributes. Preceding ozonation, APC on five dried fragrant plants was in the scope of 5-7 log CFU g<sup>-1</sup>. The APC displayed a 4 log decrease, for example from around 6.5 to 2.5 in instance of oregano, and just a 1-2 log decrease for different spices after 30 or 60 min of 4 ppm vaporous ozone treatment. *Enterococcus* spp. furthermore, *E. coli* were not identified on any of the tried dried sweet-smelling plant. The parasites counts were 2-4 log CFU g<sup>-1</sup> preceding ozonation. *Aspergillus* spp, *Penicillium* spp, *Cladosporium* spp, *Alternaria* spp, *Fusarium* spp., *Ulocladium* spp. furthermore, some obscure organisms were distinguished on plants prior to ozone medicines. *Aspergillus* spp as well as *Penicillium* spp were just recognized on mountain tea and thyme plant material even after 60 min ozonation.

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**Received:** October 10, 2021; **Accepted:** October 24, 2021; **Published:** October 31, 2021

**Citation:** Gazzani G (2021) The Microbial Condition of Dried Aromatic Plants after Exposure to Ozone. *Med Aromat Plants*. 10: 413.

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