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Short Communication

Impact of Airborne Micro-Organisms on Nature and Human Health

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DESCRIPTION

There are several Airborne Microorganisms (AM), which are important Particulate Matter (PM) constituents. Due to their pathogenicity, some AM can cause a variety of diseases in humans and other creatures. In addition, some airborne microorganisms act as ice and cloud condensation nuclei, which allow them to have an impact on the climate. The fundamental qualities of AM play important roles in several areas that can ultimately determine microbial phenotypes. Uncertain factors have a variety of effects on AM, making it challenging to elaborate on overall trend effects [1]. A thorough understanding of them is crucial due to the potential roles that AM could play in the environment and the powerful influences that variables can have on AM.

A log-normal distribution in Marseilles was demonstrated to be increased by airborne microflora, and this increased variability was also seen. While airborne fungus grew with temperature and varied with wind direction in urban and nature locations, airborne bacteria increased with temperature and wind speed. The partial identification of bacteria in Marseilles and Porquerolles which revealed that geographic location had a qualitative as well as a quantitative impact on airborne microflora; this was demonstrated by an increase in globally airborne microorganisms, and more specifically Gram negative bacteria, in the urban area [2].

The production of cattle releases a lot of airborne germs. These released microbes could be associated with dust and could infect nearby humans as well as animals on neighboring farms through airborne transmission. However, it is unclear how dust functions in the transmission processes as a carrier of germs and to what degree airborne transmission may contribute to the epidemic. The authors provide the most up-to-date information on the complete process of microorganisms being transmitted in the air, from suspension and transportation to deposition and infection, as well as their relationship to dust [3]. The approaches for monitoring and mitigating dust and airborne microorganisms in cattle production systems are also introduced. This study reflects the problems of AM composition and characteristics with size-distribution, species diversity, variation, and other difficulties, and it describes the key variables that influence the characteristics of airborne microorganisms [4]. This general knowledge serves as a knowledge base for more in-depth investigations of AM and pertinent topics. In addition, existing knowledge gaps and fresh viewpoints are presented to fully comprehend the effects and applications of AM on nature and human health.

The term "bioaerosol" is used to describe airborne biological particles such as bacterial cells, fungal spores, viruses, and pollen grains, as well as their fragments and by-products, in all of these applications. There are numerous techniques for collecting and analyzing bio aerosols, and more are being developed [5]. There are currently no standardized techniques available, and no one sample technique is sufficient for the collection and analysis of all varieties of bio aerosols. As a result, due to variations in sampler designs, collection times, airflow rates, collection media, and analysis techniques, data from several researches are frequently difficult to compare.

Furthermore, because to a paucity of exposure, dosage, and response data, human exposure limits for bio aerosols have not been set.

CONCLUSION

Additionally, it was discovered that during aerosolization from a Collison nebulizer, the electrical conductivity and pH level of a bacterial suspension rise. Therefore, measuring the electrical conductivity and pH level of bacterial suspensions may be a simple and practical way to keep track of the "wear and tear" of the bacteria suspended in deionized water. These two variables can be used to measure the mechanical stress, harm, and viability loss that bacteria experience during aerosolization. Airborne bacterial and fungal communities become more homogenized in urban environments, which may be predicted by the local environment rather than atmospheric dispersion.

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