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Sterilization Efficiency of Spore forming Bacteria in Powdery Food by Atmospheric Pressure Plasmas Sterilizer MASAYOSHI NAGATA, MASASHI TANAKA, YUSUKE KIKUCHI, University of Hyogo — To provide food sterilization method capable of killing highly heat resistant spore forming bacteria, we have studied effects of plasma treatment method at atmospheric pressure in order to develop a new high speed plasma sterilization apparatus with a low cost and a high efficiency. It is also difficult even for the plasma treatment to sterilize powdery food including spices such as soybean, basil and turmeric. This paper describes that an introduction of mechanical rotation of a treatment space increases the efficiency so that perfect inactivation of spore forming bacteria in these materials by a short treatment time has been demonstrated in our experiments. We also will discuss the sterilization mechanism by dielectric barrier discharge.

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