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(71)**Name of Applicant :**
1)SWAMI VIVEKANANDA UNIVERSITY
Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat -----
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)DR. TANMOY SARKAR
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd Bara Kanthalia West Bengal India 700121 Barasat -----
2)DR. SUPRABUDDHA KUNDU
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd Bara Kanthalia West Bengal India 700121 Barasat -----
3)MR. PARIJAT BHATTACHARYA
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd Bara Kanthalia West Bengal India 700121 Barasat -----

(57) Abstract :

The invention relates to a method and system for preserving pink oyster mushrooms (*Pleurotus eous*) to extend their shelf life and maintain their quality. The method involves treating the mushrooms with a potassium metabisulphite (KMS) solution to inhibit microbial growth and oxidative degradation. The treated mushrooms are then packaged in Modified Atmosphere Packaging (MAP) using High-Density Polyethylene (HDPE) or Low-Density Polyethylene (LDPE) films, with a controlled atmosphere consisting of specific oxygen, carbon dioxide, and nitrogen concentrations to slow down respiration and spoilage. This packaging system effectively maintains the freshness, texture, and nutritional content of the mushrooms, reducing post-harvest losses and extending their marketability. The invention provides a scalable, cost-effective solution to preserve the quality and safety of fresh mushrooms in the agricultural and food industries.

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