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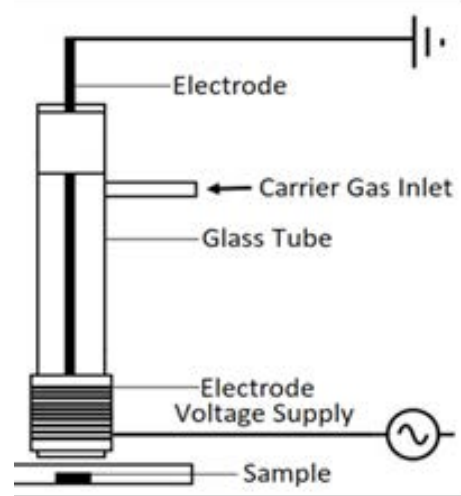
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Study and fabrication of cold plasma treatment for mushrooms spawn

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Cold plasma (CP) technology has found favor in the agricultural industry for changing seed coat structures, increasing the permeability of seed coats and stimulating seed. However, there are still lacking study of mushroom spawns application. The *Pleurotus ostreatus* (oyster mushrooms) species spikes in global demand, encouraging Malaysia to take advantage of the lucrative trade. Therefore, the objectives of this study are to evaluate the mushroom spawn's wettability for mushrooms germination rate by using CP technology. By using a novel CP pen as shown in Figure, the mushroom spawn will be treated by using discharge air. The air generates in a petri dish with a flow rate of 5 L/min by considering three different time exposures (0, 15 and 30 seconds) with 8 kV of supply voltage. Stainless steel rod is a material for electrode pen discharge. The SEM and contact angle analysis were conducted to study the changes in the surface morphology of the plasma treated spawns. The results show an increment of treatment time, increase the mushroom spawn pores and wettability. This creates surface more hydrophilic thus spawn absorbs more water

and shorten the germination rate. Based on the results, it can be concluded that the CP application can significantly change the spawn wettability and texture.



Biography

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