The Application of Mushroom Mycelium as a Biomaterial and Leather Alternative

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As climate change poses a bigger threat to the world, more and more consumers are looking to change their buying habits to become more sustainable. One industry experiencing this change first hand is the leather industry. Many consumers not only decide to abstain from supporting the leather industry for environmental reasons, but also in protest to animal cruelty As a result, an alternative synthetic leather made from petroleum has soared in popularity. The aim of this study was to create a third option for consumers. That is both more sustainable and cost-effective than synthetic or traditional leather. Leather made from mushroom mycelium is a carbon-negative fast growing alternative. This study assessed one of two different methods of creating this biomaterial using three distinct mushroom species (Pleurotus ostreaus, Ganoderma lingzhi, and Cyclobe agerita). After three trials it was concluded that Ganoderma lingzhi is best suited because it is the fastest growing of the three as well as the most consistent, tolerant to contamination, and had the thickest mycelium.