

Reishi™ Mushroom Leather: Pioneering Sustainable Leather in the Fashion Industry

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Abstract: This paper explores Reishi™ mushroom leather, a sustainable and innovative alternative to leather in the fashion industry. As the demand for environmentally and ethically sourced materials grows, mushroom leather utilises the natural properties of fungal mycelium to meet the market well. This study provides an in-depth analysis of the macro trends in the textile and fashion and leather markets, describes the necessity for the emergence of sustainable leather substitutes, and then provides an insight into the production process of Reishi™ mushroom leather, highlighting its low impact on the environment and its various excellent properties and characteristics. The paper also investigates the current practical use of mushroom leather by fashion companies, illustrating the practical application of Reishi™ mushroom leather in a variety of fashion products such as clothing and bags. In addition, the paper provides recommendations for the commercialisation of Reishi™ mushroom leather in the fashion industry, with insights from ethical and cultural perspectives.

Keywords: Reishi™ mushroom leather, Sustainability, Fashion industry, Luxury brands.

1. Introduction

Leather has always been a popular material in the fashion sector due to its flexible and durable features, and the market is expected to reach a value of GBP 280 billion by 2025 (Nayak, 2023; Jones et al., 2021). Leather is usually made from the leather of animals such as cattle, sheep, goats, horses, zebra, pigs, ostrich, crocodiles, lizards, and snakes by changing their protein structure through physical and chemical treatments, a process also known as tanning (Nayak, 2023; Elkhateeb et al., 2022; Jones et al., 2021). However, the treatment and processing of leather is not only abusive and exploitative to animals, but also exacerbates environmental problems (Nayak, 2023). Due to the growing interest in sustainable fashion and eco-friendly materials, there is a significant need to seek alternatives to traditional fibre materials as concerns about environmental and animal welfare issues continue to increase (Nayak, 2023; Jones et al., 2021).

These problems have led to the emergence of non-animal leather alternatives on the market, such as synthetic leather, which to some extent alleviate the social and environmental problems related to the manufacture of leather (Williams, E. et al., 2022; Jones et al., 2021). Currently, most of the synthetic leathers sold in the market are made of polyvinyl chloride (PVC) and polyurethane (PU), which are not easy to recycle and worsen the global plastic problem (Amobonye et al., 2023; Williams, E. et al., 2022). In addition, synthetic leathers may also release harmful substances during the use process, which can have a negative impact on the environment (Amobonye et al., 2023; Waltz, 2022).

With the increasing demand for environmentally friendly and sustainable development, eco-friendly alternatives to leather have become necessary, and mushroom leather has attracted much attention and interest because of its innovative and eco-friendly properties (Bailey, 2023). Several biotechnology companies have already developed some mushroom leather materials such as Mylo™ by Bolt Threads and Reishi™ by MycoWorks. Due to the plastic content in Mylo™ and other mushroom leathers, Reishi™, which does

not contain any plastic, has the most potential for development. Reishi™ mushroom leather, as a leather substitute made from plant-based materials, requires less consumption of energy to produce and the wastes generated can be easily biodegraded (Williams, E. et al., 2022; Bustillos et al., 2020).

The paper begins with a detailed analysis of contemporary macro-trends in the textile and fashion and leather markets, and explores how the leather industry impacts on the environment, pointing out the market demand for sustainable and cruelty-free leather alternatives. Then Reishi™ mushroom leather (mycelium leather) is introduced, a popular and innovative leather alternative, in detail from the perspectives of the production process, performance, advantages, and disadvantages. This paper then takes Mycoworks and Bolt Threads, two leading mushroom leather companies, as examples, and describes in detail how mushroom leather is being practically utilised in the fashion sector. Furthermore, based on its commitment to sustainability and ethical fashion, Stella McCartney is selected as the company most suitable to use Reishi™ for expanding the mushroom leather market. Finally, recommendations are given to Stella McCartney in terms of how to scale up Reishi™ mushroom leather in the fashion market, with some considerations in terms of ethical and cultural aspects, as well as price issues, and animal leather as a meat by-product.

2. Macro to Micro Analysis

2.1. Macro Trends: Fashion Industry

With the fashion industry recognised as a key driver of greenhouse gas emissions and plastic pollution and one of the worst contributors to environmental pollution, sustainability has become a major focus for fashion brands (Earth Day, 2024; Dottle and Gu, 2022). Current government policies are also urging the fashion industry to accelerate its shift towards producing environmentally and socially responsible products aligned with market demand, such as the UN's SDGs and ESPR, which provide a framework and motivation for the

green transformation of the fashion industry. The introduction of more fashion laws, stricter government regulations on environmental protection, and increased sustainable regulation of the fashion industry (Paton, 2022), provide an important push for green transformation within the industry. The current legal environment not only directly promotes environmental protection in the fashion industry, but also indirectly promotes technological innovation and market diversity. As consumers become more aware of sustainability, they are increasingly inclined to choose products that meet environmentally friendly standards (Zajac, Kotlarek, and Dlutowska, 2021). Market research shows that the majority of consumers not only expect the brands they buy to have sustainability credentials, but they also expect those brands to provide detailed information on the environmental impact of their products. This trend is prompting companies to re-evaluate their production and supply chain management methods to ensure alignment with these emerging market demands.

As a consequence, the sustainable development of the fashion industry is facilitated by environmental, policy, legal, and social factors, and these external environmental factors have contributed to the development of new technologies in the fashion industry. For example, through the development and introduction of technologies such as bio-based materials, recycled fibres, 3-D printing technology, and bio-packaging, fashion brands can significantly reduce their environmental footprint and also comply with economic efficiency and market competitiveness.

2.2. Macro Trends: Leather Industry

Leather holds the largest market share in the apparel and accessories manufacturing sector for its unique properties such as aesthetics, tactility, and durability (Nayak, 2023; Williams et al., 2022). However, with the development of the leather market, the negative impact of the leather industry on the environment has gradually expanded (Ariyani et al., 2024). The deterioration of the natural environment, such as global climate change, and increasing resource constraints, poses a serious challenge to the leather industry. In order to reduce the negative impact on the environment, the leather industry needs to find more environmentally friendly production methods (Omoloso et al., 2021), such as reducing water resources, reducing the use of chemicals and GHG emissions, using non-chromium or low-chromium tanning processes, as well as exploring the use of plant-based leathers and developing leather products that are biodegradable or more easily recyclable.

The government policy environment plays a crucial role in promoting sustainable development in the leather industry. Many governments have introduced a range of policies to promote positive changes in environmental issues in various industries. For example, the SDGs and ESPR regulations issued by the European Union have motivated the leather industry to use sustainable methods in the production process and to consider environmental factors in product design (Ecomatters, 2022).

At the same time, the legal environment also facilitates the sustainability of the leather industry (Omoloso et al., 2021). As environmental laws and regulations increase and are strengthened, tanneries and leather companies are expected to follow stricter environmental standards and to increase the transparency and traceability of their supply chains to ensure that production processes are sustainable and ethical.

Changes in the social environment are also a key factor in promoting sustainable development in the leather industry. Currently, public awareness of environmental protection and social understanding of animal rights is increasing, therefore, consumers are increasingly against the use of traditional animal leather products. This trend has provided a huge boost to the leather industry's exploration of leather substitutes and the development of cruelty-free and sustainable leather substitutes.

In summary, governmental and legal support, as well as increased public awareness, has promoted the development of sustainable leather alternatives in the leather industry, such as mushroom leather made from biodegradable plant materials.

2.3. Micro Analysis: Leather Industry

The production of traditional animal hides and skins has a severe impact on the environment. This is mainly due to the processes associated with the animal husbandry (Jones et al., 2021). Leather is mainly sourced from cattle, sheep and goats, so there will be animal husbandry involved, and too much livestock will release more methane. In addition, the leather production process uses a lot of high-strength chemicals and generates a lot of toxic waste, thus resulting in negative impacts on the environment and workers' health (Dixit et al. 2015; Gibb et al. 2000). Therefore, there is an urgent need for the leather industry to develop new technologies to achieve more sustainable production methods.

To alleviate the environmental problems created by animal leather, the leather industry has introduced synthetic alternatives made from materials such as polyvinyl chloride (PVC) and polyurethane (PU) (Williams et al., 2022). These synthetic leathers are produced with less harmful environmental impact and a lower carbon footprint than traditional animal leathers. However, these synthetic leathers are based on plastics, which are difficult to recycle and can release harmful substances that add to the global plastic problem (Amobonye et al., 2023).

Therefore, the current environmental problems in the fashion and leather industries makes it very important to develop new eco-friendly leathers. With the increasing demand for sustainable materials in the marketplace, research and development of leather substitutes made from bio-based or biodegradable materials, such as mushroom leather, has been promoted.

3. Summary of the Innovation

3.1. Introducing the Innovation

According to the analysis of current macro and micro trends, mushroom leather has a great potential as a sustainable alternative material. Mushroom leather is cultivated in a controlled environment through bioengineering techniques which use the mycelial growth ability of fungi (Nayak, 2023). However, many mushroom leathers on the market do not fully meet sustainable standards and still contain plastic components. MycoWorks' Reishi™ is proving to be a promising sustainable alternative (Graydon, 2022). Due to its completely natural qualities and lack of any plastic content, Reishi™ can naturally decompose at the end of its life cycle, promoting more sustainable recycling and reuse. The following content describes in detail about the manufacturing process of Reishi™ mushroom leather, its advantages and disadvantages and its impact on sustainable development.

3.2. The Manufacturing Process of Reishi™ Mushroom Leather

The process of producing Reishi™ mushroom leather begins with the selection and cultivation of suitable strains, and white-rot fungi are considered to be one of the best choices for the production of leather alternatives (Figure 1) (Amobonye et al., 2023). White-rot fungi can produce pure and stable structural mycelium, including *Agaricus bisporus*, *Ganoderma lucidum*, *Pleurotus ostreatus*, *Phellinus ellipsoideus* (Amobonye et al., 2023). Mycelium is the basic raw material and the core of mushroom leather production (Figure 2) (Nayak, 2023).

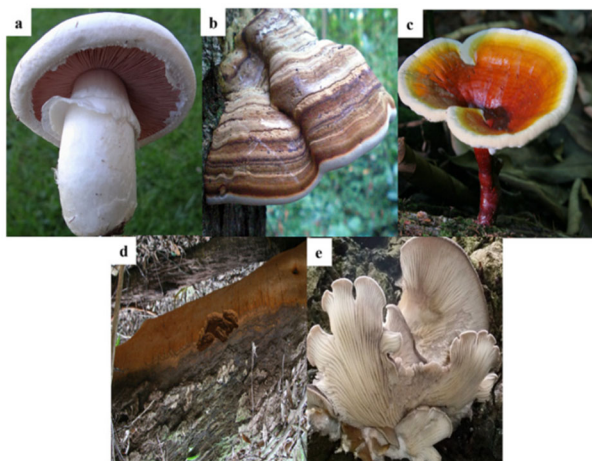


Figure 1. Some examples of white rot fungi (a). *Agaricus bisporus*; (b). *Fomes fomentarius*; (c). *Ganoderma lucidum*; (d). *Pleurotus ostreatus*; (e). *Phellinus ellipsoideus* (Amobonye et al., 2023)



Figure 2. Mycelium of mushroom in soil (Source: Mayne Island Conservancy, 2021)

After the selection of suitable strains, substrate preparation and treatment are required. The substrate usually consists of lignocellulosic materials such as agricultural waste, straw, corn or wood chips, which are used to provide a growth medium for the fungus (Figure 3) (Vandelook et al., 2021). After that, MycoWorks has a patent for a solid-state surface fermentation method for culturing mycelium (Vandelook et al., 2021). That is, a porous interlayer made of an antifungal polymer is embedded in a solid substrate (Figure 4) (Ross et al., 2020). Mycelium grows through this interlayer and the fungal material can be easily separated from the nutrient substrate (Figure 4). The best-growing conditions for Reishi™ are a humid environment (20-100% humidity range), temperatures between 22°C and 25°C, high oxygen content and complete darkness, in which it is grown for a two-week period and flattened several times with mycelial sheets during the growth process (Figure 4) (Vandelook et al., 2021). When the required layer thickness is reached, the intermediate layer is automatically delaminated to obtain the desired Reishi™ mycelium mat.

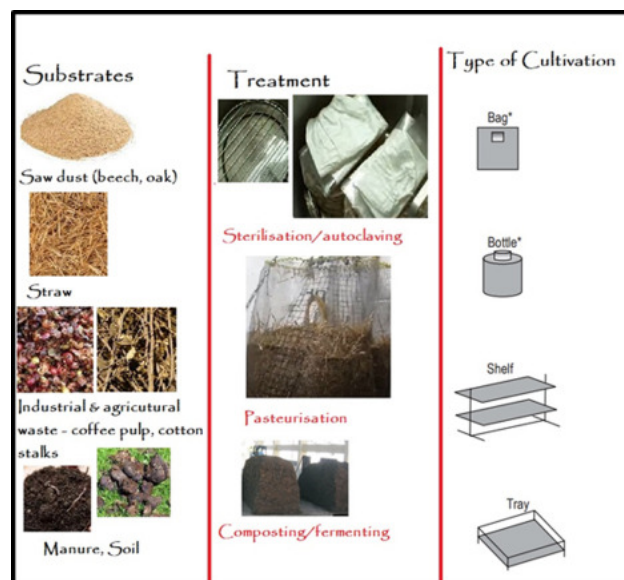


Figure 3. Substrates, treatment process, and different types of cultivation for Mycelium growth (Nayak, 2023).

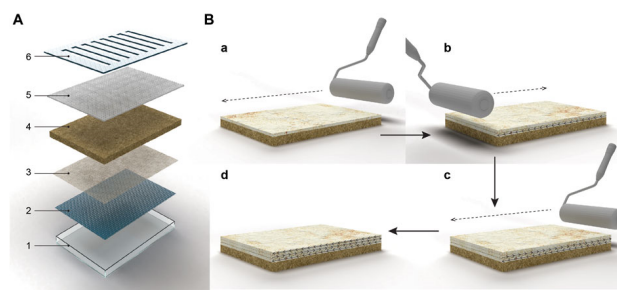


Figure 4. Solid State Surface Fermentation for Cultivating Reishi™ by MycoWorks (Vandelook et al., 2021)

After harvesting the mycelial mats, they have to be physically and chemically treated to get the desired aesthetics, shape, texture, and properties (Figure 5) (Amobonye et al., 2023). In the chemical pretreatment process, MycoWorks' cross-linking strategy during the treatment of Reishi™ uses several key steps to enhance the properties of the Reishi™ leather (Jones, et al., 2019). First, the chitin and chitin nanowhiskers were partially deacetylated by treatment in a 40% sodium hydroxide solution. Next, a blocked isocyanate crosslinker was used to enhance the structure of the material. In addition, the use of natural genipin as a cross-linking agent significantly improves the modulus of elasticity and tensile strength of the material (Jones et al., 2021). These specially treated fungal materials exhibit superior mechanical properties and durability. Importantly, the chemicals used by MycoWorks in this process are non-toxic and environmentally friendly (Farra, 2020). Then, to further improve properties such as hydrophobicity, flexibility and durability of Reishi™, it is possible to treat the mycelial leather with natural or synthetic chemicals such as natural tannins or glycerine to provide a protective layer (Amobonye et al., 2023). Reishi™ uses a non-woven felt polyester reinforcement and a PLA surface coating that exhibits higher tear strength than bovine leather, higher flexural strength, and similar abrasion resistance (Jones et al., 2021). To be environmentally friendly, each Reishi™ mushroom leather is vegetable-tanned and is never tanned with toxic chemicals containing chromium (Farra, 2020). Finally, the post-treatment process includes operations such as dyeing with natural dyes, stamping and embossing, which can increase the

aesthetics of Reishi™ (Figure 6) (Jones et al., 2021). Different tanning and embossing processes can be used to obtain Reishi™ leathers with different properties, including Reishi™ Pebble, Reishi™ Mycelial and Reishi™ Doux (Figure 6) (MycoWorks, 2024).

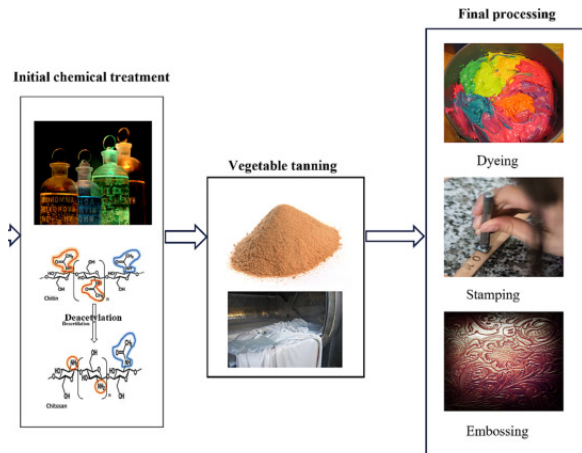


Figure 5. Subsequent production processes of cultivation and harvesting of mycelium (Amobonye et al., 2023)

	REISHI™ PEBBLE	REISHI™ MYCELIAL	REISHI™ DOUX
Texture (visual)	Pebble	Mycelium Grain	Smooth
Hand-feel (touch)	Plush	Plush	Slick
Body (drape)	Round, Full	Round, Full	Moderate, Structured hand
Color	Semi Matte Black	Brown and Black	Matte Black
Baily flex	5K Cycles	5K Cycles	5K Cycles
Dry vesic / wet vesic	3 / 3 on Gray Scale	3 / 3 on Gray Scale	3 / 3 on Gray Scale

Figure 6. Reishi™ sheets treated with different tanning and embossing techniques (e.g. pebbles) (Source: MycoWorks, 2024)

3.3. Advantages and Disadvantages of Reishi™ Mushroom Leather

3.3.1. Advantages of Mushroom Leather

The main advantage of Reishi™ is that it has a minimal impact on the environment. The main raw material for mushroom leather is made from renewable agricultural by-products, such as straw and wood chips (Vandelook et al., 2021), and the entire production process emits very little greenhouse gases, reducing the pollution of the environment (Williams et al., 2022). Based on the environmental footprint assessment experiments of Reishi™ by Williams et al. (2022), the production of Reishi™ significantly reduces water consumption, energy consumption, and GHG emissions, resulting in a very low carbon footprint with minimal impact on the environment. Importantly, Reishi™ mushroom leather is biodegradable and breaks down naturally without leaving harmful residues, and it is also able to be composted at the end of its life cycle, creating a closed loop in the production process (Figure 7) (Nayak, 2023).



Figure 7. Recycling and reusability of mushroom leather products (Nayak, 2023)

In addition, Reishi™ mushroom leather meets ethical consumerism because it is animal-free which avoids animal slaughter, and is a cruelty-free alternative to traditional leather (Roberts-Islam, 2021). This gives it growth potential for the vegan market and people concerned with animal welfare in fashion products. Furthermore, the fact that no harmful chemicals such as chromium are used in the production process of Reishi™ mushroom leather means that it is safer for the environment, workers, and human health (Ariyani et al., 2024).

In terms of the properties of Reishi™ mushroom leather, the adaptability and growth capacity of Reishi™ allows it to grow into any desired size and shape, thus reducing the waste of cutting. And because of the patented technology of MycoWorks, Reishi™ is stronger and more durable than other mushroom leathers (MycoWorks, 2024). Furthermore, Reishi™ mushroom leather is lightweight, flexible, easy to dye, and has a short production cycle, which makes it an excellent alternative to animal leather (Nayak, 2023; Farra, 2020).

3.3.2. Disadvantages of Mushroom Leather

At the same time, Reishi™ mushroom leather faces a number of challenges. One important issue is that its life expectancy is not comparable to high-quality traditional leathers (Martinko, 2020). Besides, cost and supplies are also huge challenges. Currently, Reishi™ is relatively expensive to produce and is produced in small volumes due to the fact that it is a newly emerging technology and the scale of production is limited (Kent, 2022). This factor can make it less competitive in terms of price compared to traditional leather and synthetic alternatives. Additionally, Reishi™ has not yet fully entered the mainstream fashion sector and market penetration and acceptance will still take time (Nayak, 2023). Consumers and the industry need to be made aware of the benefits and properties of Reishi™ to promote wider adoption.

4. Application and Recommendation

4.1. Application of Mushroom Leather in the Fashion Industry

Mushroom leather is in line with the development of sustainable fashion due to its excellent properties such as high production efficiency, easy dyeability, and biodegradability, making mushroom leather the first choice as an alternative to traditional leather (Amobonye et al., 2023; Nayak, 2023). Mushroom leather is currently being explored for use in fashion products that are alternatives to genuine leather, and

a number of companies have already begun to produce garments and accessories based on mushroom leather (Figure 8) (Kiron, 2024).



Figure 8. Hat and bag made of mushroom leather (Jeckson, 2021)

At present, there are two pioneering and influential companies at the forefront of research and development, technological innovation, and the production of mushroom leather, which are Bolt Threads and MycoWorks (Russell-Shapiro, 2021). Bolt Threads is a biotech company, and one of its most notable innovations is Mylo™, a leather-like material made from mycelium (Bolt Threads, 2024; Kostopoulos, 2020). Bolt Threads works closely with British designer Stella McCartney who is a leader in environmental awareness. She designs and produces fashion products made from Mylo™, and in 2022, launched the Mushroom Leather Frayme Mylo Bag (Figure 9, a) (McCartney, 2022). In 2021, McCartney launched the first jet-black bustier and utility pants made by Mylo (Figure 9, b) (Farra, 2021).

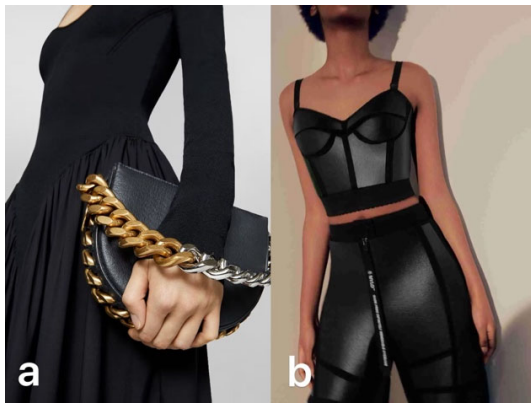


Figure 9. Mushroom leather products launched by Stella McCartney (a). Frayme Mylo bag; (b). Mylo garments: jet-black bustier and utility pants (Source: Stella McCartney; Vogue)

MycoWorks is a biotechnology company specialising in the manufacture of innovative materials from mycelium, and its standout product is Reishi™, a fine mycelium™ leather that mimics the qualities of animal leather in terms of aesthetics, performance, and durability (MycoWorks, 2024; Williams et al., 2022). Despite being a sustainable alternative, Reishi™ offers a luxury feel that competes with high-quality animal leather (MycoWorks, 2024). Designers and brands that seek to combine luxury with sustainability have already partnered with MycoWorks, such as Hermès and Nick Fouquet (Figure 10).

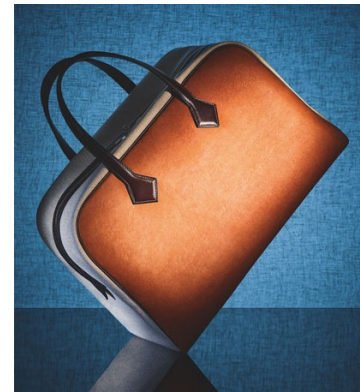


Figure 10. Hermès Victoria bag in Sylvania made with Fine Mycelium™ (Source: MycoWorks Inc.)

4.2. Recommendation of Reishi™ Mushroom Leather in the Fashion Industry

4.2.1. Rationale for Choosing Stella McCartney

Although some well-known brands have innovatively added elements of mushroom leather to their products, such as Hermès, Adidas, and Lululemon, they have not made large-scale use of mushroom leather. The main reason for choosing Stella McCartney is the identity of the brand and its commitment to sustainability. Stella McCartney has always been recognised by the public as a leader in sustainable fashion, and is the first luxury brand in the world to commit to never using leather, feathers, or fur (Stella McCartney, 2021). McCartney has always emphasised the climate-damaging impact of animal husbandry, which coincides with the emergence of mushroom leather as a sustainable alternative to traditional animal leather (Bajekal, 2023). What is more, Stella McCartney gives priority to eco-friendly materials in the design and production of its products (Stella McCartney, 2021), which makes mushroom leather a very good match for its product line.

Although Stella McCartney has collaborated with Bolt Threads, the fact that Mylo™ contains plastic components such as polyurethane means that it still faces significant environmental concerns (Williams et al., 2022). These synthetic elements prevent Mylo™ from being fully biodegradable, increasing the carbon footprint and resource use in the recycling process and undermining the sustainability benefits of mushroom leather (Vandelook et al., 2021). Combined with the luxurious texture and quality of the Reishi™ leather, all of the above advantages make it possible for MycoWorks to develop mushroom leather into a mainstream material for the fashion market (Roberts-Islam, 2021). Therefore, it is recommended that Stella collaborate with MycoWorks to scale up the commercialisation process of mushroom leather.

4.2.2. Recommendations for scaling up the commercialisation of Reishi™ mushroom leather

Stella McCartney mentioned in the interview that the world's first garment made of mushroom leather was not sold commercially by the company (Farra, 2021). The only mushroom leather product currently available from Stella McCartney is the Frayme Mylo bag (Stella McCartney, 2021). Stella McCartney could work with MycoWorks to expand the use of sustainable mushroom leather by designing a wider variety of fashion items to expand the commercialisation of mushroom leather. Stella McCartney's Frayme bag, launched in 2022, was the world's first commercially available mushroom leather bag (Stella McCartney, 2022). It

established a good foundation for the use of mushroom leather in fashion items (Schwartzberg, 2022). As a result, in addition to bags, it is feasible for Stella McCartney to integrate mushroom leather, like Reishi™ into the design and distribution of a variety of fashion items, such as jackets, shoes, belts, and so on. This can increase the exposure of the mushroom leather and increase the competitiveness of the brand in this segment of the market.

In addition, Stella McCartney can invest in mushroom leather technology with MycoWorks to further optimise the material properties of mushroom leather (Farra, 2021). Based on data from the Boston Consulting Group, consumers are willing to pay premium prices for sustainable leather substitutes when they offer properties that leather lacks (Webb, 2022). Therefore, in order to meet consumer demand for leather alternatives and to increase its market appeal, Stella McCartney could invest in the mushroom leather technology of MycoWorks to select mushroom leather materials for the production of its fashion products that have properties that meet or exceed those of traditional leather, such as scratch resistance, durability, and weathering resistance.

4.2.3. Implications and Considerations: Ethical and Cultural

In the commercial development of mushroom leather, Stella McCartney would need to address issues of ethical production and cultural considerations. According to legal regulations and consumer requirements, the transparency of the supply chain during the production process is an important support in identifying whether a fashion product is sustainable or not. Stella McCartney should make the best effort to ensure that it is accessible from the selection of raw materials as well as the production process, and the treatment of workers, in order to prove that the brand's practices and production processes are ethical. (Svensson, 2009). In addition, Stella McCartney's corporate culture is closely linked to sustainability and ethical fashion (Stella McCartney, 2024). Thus, the marketing strategy of mushroom leather products can be developed to express that mushroom leather is aligned with the corporate culture and ethical values of the brand.

However, there are still some issues that need to be addressed in Stella McCartney's commercial development of mushroom leather. The price of the Mylo Frayme bag, made from mushroom leather, is approximately 25 percent higher than Stella McCartney's other bags (Schwartzberg, 2022). As the current market for mushroom leather production is small and the production costs are high, mushroom leather is currently only available as a luxury item (Gamillo, 2021). It is only the larger the consumer demand for mushroom leather, the higher the production, the lower the price will be, thus eventually replacing the traditional animal leather (Schwartzberg, 2022).

Additionally, although sustainable alternatives such as mushroom leather provide important options for reducing the direct demand for animal-based products and lowering the environmental impact of traditional leather production, it does not address the issue of how animal hides should be treated after they are no longer processed into the leather as a meat by-product, since animal hides will be generated as long as there are people continuing to eat meat (B.V., 2021; Davis, 2020). However, it is also possible that animal leather can be a sustainable, recycled material when the right chemicals are used in the production process (B.V., 2021).

5. Conclusion

Based on analyses of macro trends in the textile and fashion industry, as well as in-depth analyses of internal environmental issues in the leather industry, there is a growing demand for animal-free and environmentally friendly leather alternatives. Mushroom leather has enormous potential as an alternative to animal leather. With its low environmental impact, it offers a striking combination of sustainability and ethical production, aligning with growing consumer awareness of environmental issues and animal welfare.

Reishi™ mushroom leather is gradually gaining a position in the fashion market due to its unique performance and characteristics, such as light weight, flexibility, renewability and biodegradability. Recognising the potential of mushroom leather as a sustainable alternative to traditional materials, some companies, such as fashion companies collaborating with Mycoworks and Bolt Threads, have begun to design and market products made from mushroom leather.

Based on Stella McCartney's brand mission and corporate culture, it is the most suitable company to apply Reishi™ to scale up the commercialisation of mushroom leather. Stella McCartney can further expand the market for mushroom leather by optimising the properties of the material by investing in MycoWorks' mushroom leather technology, designing more fashionable items made from mushroom leather, and expanding the volume of production. At the same time, ethical and cultural considerations need to be included. However, despite its enormous potential, mushroom leather faces a number of challenges that need to be addressed, such as price issues and the problem of animal leather as a meat by-product. In conclusion, as technology advances and production processes improve, mushroom leather is likely to become increasingly popular in the fashion industry.

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