

1. Record Nr.	UNINA9910583042503321
Titolo	Sustainable fibres and textiles // edited by Subramanian Senthilkannan Muthu
Pubbl/distr/stampa	Duxford, England : , : Woodhead Publishing, , 2017 ©2017
ISBN	0-08-102042-2
Descrizione fisica	1 online resource (405 pages) : illustrations
Collana	The Textile Institute Book Series
Disciplina	677.00286
Soggetti	Textile industry - Environmental aspects Textile fabrics - Environmental aspects Sustainable development
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Machine generated contents note: ; 1. Introduction to sustainable fibres and textiles / Subburaj Suganya -- ; 1.1. Introduction -- ; 1.2. Principles of sustainability -- ; 1.3. Sustainable fibre production -- ; 1.4. Sustainability of textile industries -- ; 1.5. Future trends -- Sources of further information and advice -- References -- ; pt. One Sustainable fibre production -- ; 2. Sustainable cotton production / Shanthi Radhakrishnan -- ; 2.1. Introduction -- ; 2.2. Key sustainability issues in cotton farming -- ; 2.3. Sustainable crop management -- ; 2.4. Sustainability and selective breeding -- ; 2.5. Sustainable cotton processing -- ; 2.6. Future trends and conclusion -- References -- ; 3. Sustainable production of bast fibres / Sanjoy Debnath -- ; 3.1. Introduction -- ; 3.2. Production of some important bast fibres: status of fibre extraction, mechanical processing (spinning and weaving) of bast fibres, chemical processing, product development, product diversification and added value -- ; 3.3. Sustainability of bast fibre in future -- ; 3.4. Conclusions and suggestions for further research for sustainable development of bast fibres -- References -- Further reading -- ; 4. Sustainable wool production in India / Seiko Jose -- ; 4.1. Introduction -- ; 4.2. Sheep and wool production trend in India -- ; 4.3. Quality of Indian wool -- ; 4.4. Wool marketing practices in India

-- ; 4.5. Sorting and grading of wool -- ; 4.6. Price structure of wool that arrives in mandies -- ; 4.7. Import of wool to India -- ; 4.8. Diversity in Indian sheep breeds -- ; 4.9. Apparel wool breeds -- ; 4.10. Carpet wool -- ; 4.11. Superior carpet wool breeds -- ; 4.12. Coarse wool breeds -- ; 4.13. Production system and farming practices -- ; 4.14. Breeding strategies for sustainable wool production -- ; 4.15. Cross-breeding involving exotic breeds: for fine wool production -- ; 4.16. Sustainability and selective breeding -- ; 4.17. Breeding strategies -- ; 4.18. Processing strategies for sustainable wool production -- ; 4.19. Process of removing coarser fibres -- ; 4.20. Geo-textile application of coarser wools -- ; 4.21. Wool nonwovens -- ; 4.22. Applications of wool nonwovens in filtration media -- ; 4.23. Applications of wool nonwovens in thermal insulation -- ; 4.24. Miscellaneous applications of wool nonwovens -- ; 4.25. Major constraints faced by wool in India -- ; 4.26. Conclusion -- References -- Further reading -- ; 5. Ecological dyeing of wool with biomordants / Faqeer Mohammad -- ; 5.1. Introduction -- ; 5.2. Biomordants in wool dyeing -- ; 5.3. Some natural colourants for wool -- ; 5.4. Current challenges in wool dyeing -- ; 5.5. Conclusion and future aspects -- References -- ; 6. Sustainable silk production / R. Rathinamoorthy -- ; 6.1. Introduction -- ; 6.2. Silk -- ; 6.3. Life-cycle assessment of silk production -- ; 6.4. Sustainable production of mulberry leaves -- ; 6.5. Sustainable dyeing of silk -- ; 6.6. Sustainable silk materials -- ; 6.7. Sustainable spider silk -- ; 6.8. Silk in sustainable luxury fashion -- ; 6.9. Conclusion and outlook -- References -- Further reading -- ; 7. Sustainable production of regenerated cellulosic fibres / Faqeer Mohammad -- ; 7.1. Introduction -- ; 7.2. Key sustainability issues in regenerated fibre production -- ; 7.3. Production of regenerated fibres -- ; 7.4. Closed-loop manufacturing of high wet modulus rayon and Lyocell -- ; 7.5. High wet modulus rayon -- ; 7.6. Lyocell manufacturing -- ; 7.7. Production of regenerated bamboo fibres -- ; 7.8. Future trends -- ; 7.9. Conclusion -- Sources of further information and advice -- Acknowledgements -- References -- ; 8. Sustainable synthetic fibre production / R. Rathinamoorthy -- ; 8.1. Introduction -- ; 8.2. Environmental impact of textiles -- ; 8.3. Biodegradable polymers -- ; 8.4. Sustainable production of polyester fibres -- ; 8.5. Sustainable nylon -- ; 8.6. Sustainable carbon fibre production -- ; 8.7. Recycling of synthetic fibres -- ; 8.8. Conclusions and outlook -- References -- Further reading -- ; pt. Two Sustainable textile and apparel production -- ; 9. Low water-consumption technologies for textile production / Guruprasad Raghavendran -- ; 9.1. Introduction -- Technologies to reduce water footprint of textile products -- ; 9.2. Plasma technology -- ; 9.3. Ultrasonic-assisted dyeing technology -- ; 9.4. Supercritical carbon dioxide technology -- ; 9.5. Conclusion -- References -- Further reading -- ; 10. Sustainable chemical technologies for textile production / Asim K. Roy Choudhury -- ; 10.1. Introduction -- ; 10.2. Sustainability -- ; 10.3. Sustainability issues in current textile production -- ; 10.4. Sustainable processing -- ; 10.5. Greener textile materials -- ; 10.6. Greener preparatory processes -- ; 10.7. Enzyme processing -- ; 10.8. Greener bleaching methods -- ; 10.9. Colouring matters -- ; 10.10. Textile chemicals -- ; 10.11. Greener dyeing processes -- ; 10.12. Future trends -- References -- Further reading -- ; 11. Sustainable wastewater treatments in textile sector / Anbalagan Saravanan -- ; 11.1. Introduction -- ; 11.2. Wastewater treatment in textile industry -- ; 11.3. Pollution loads for various textile materials -- ; 11.4. Laws for wastewater textile pollutants in various countries -- ; 11.5. Sustainable chemicals -- ; 11.6. Sustainable wastewater treatment methods -- ;

11.7. Case studies -- ; 11.8. Challenges -- ; 11.9. Future trends -- ; 11.10. Conclusion -- Sources of further information and advice -- References -- ; 12. Sustainable chemical management and zero discharges / K. Amutha -- ; 12.1. Introduction -- ; 12.2. Sustainability issues in the current scenario -- ; 12.3. Detox campaign -- ; 12.4. Zero discharge of hazardous chemicals and similar industrial initiatives -- ; 12.5. 11 Flagship chemicals and zero discharge of hazardous chemicals audits -- ; 12.6. Restricted substances list and manufacturing restricted substances list -- ; 12.7. Substance of very high concern -- ; 12.8. Zero liquid discharge -- ; 12.9. Industry trends: sustainable chemical management and zero discharges -- ; 12.10. Challenges -- ; 12.11. Future trends -- ; 12.12. Conclusion -- Sources of further information and advice -- References -- Further reading -- ; 13. Sustainable production and application of natural fibre-based nonwoven / Sanjoy Debnath -- ; 13.1. Introduction: nonwovens and their types, consumption and world share of nonwovens and natural fibre-based nonwovens -- ; 13.2. Design, development and application of natural fibre-based nonwovens: current status of natural fibre-based nonwovens and an evaluation of their different properties for specific application, product diversification and added value -- ; 13.3. Sustainability of lignocellulosic fibre-based nonwovens in future technical textiles -- ; 13.4. Conclusions and suggestions for further research -- References -- Further reading.

---