

Book reviews

S. Gordon, Y.-L. Hsieh (Eds.), *Cotton: Science and Technology*, Woodhead Publishing Ltd., Cambridge, 2007 (xx + 548 pp., £150.00, ISBN: 1-84569-026-5)

Natural cotton fibre is the purest source of cellulose. Despite the increased variety of man-made fibres available to the textile industry, demand for cotton remains high because of its suitability on the basis of price, quality and comfort across a wide range of textile products. Cotton-producing nations are also embracing sustainable production practices to meet growing consumer demand for sustainable resource production, thereby ensuring that cotton remains a key fibre in the textiles industry. Both the market value and the quality of cotton products are directly related to fibre quality. A fundamental understanding of the fibres, in terms of structural formation during development, and structure–function relationships with respect to physicochemical characteristics, are necessary to ensure that improvements in fibre quality, process innovation and product differentiation help to maintain/improve its competitiveness and global market share with respect to significant man-made fibre developments, such as microdeniers (e.g. polyesters and nylons) and elastomeric properties (e.g. spandex).

This important volume summarises the key scientific and technological issues in ensuring cotton quality, and is divided into three parts. The first part (Chapters 1–3) reviews the chemical and physical properties of cotton and how they determine cotton fibre quality. The most essential cotton fibre qualities related to mechanical processing, i.e. traditional yarn spinning, weaving, and knitting, are length, strength, fineness and their distributions, and they determine yarn strength, regularity, handle and lustre of fabrics. For chemical processing such as scouring, dyeing and finishing, fibre structure plays a major role, largely due to the impact of non-cellulosic cell wall components and secondary cell wall cellulose on such processes. The second part of the volume (Chapters 4–11) discusses the key stages in cotton production from cultivation and harvesting to spinning, knitting and weaving. Genetic modification or transformation of cotton plants has resulted in the introduction of pest-tolerant, and herbicide-resistant traits. Around a third of all cotton grown in the world is genetically modified. Like genetically modified cotton, organic cotton generates much debate on its worth to society. There continues to be worldwide interest in

organic cotton on the basis that it is an environmentally friendly and cost-effective production method.

Textile market survival relies on knowledge of raw material costs, product quality maintenance, health and safety issues and recycling (cradle-to-grave) processes associated with cotton product manufacturing. Building on these foundations developed in the first two parts, the third part of the volume (Chapters 12–16) reviews quality and other issues such as testing yarn and fabric quality, cost control in the industry and recycling. ‘*Cotton: Science and Technology*’ can most definitely be described as an essential reference source for all those concerned with the manufacture, quality control, and development of cotton and cotton-based products throughout the world.

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J. W. van der Kamp, N.-G. Asp, J. Miller Jones, G. Schaafsma (Eds.), *Dietary fibre: Bio-active carbohydrates for food and feed*. Wageningen Academic Publishers, Wageningen, The Netherlands, 2004 (357 pp., €75.00, ISBN: 90-76998-32-9)

The growing attention by consumers for healthy eating, intestinal health, combating major disorders such as obesity and diabetes and prevention of cardio-vascular diseases and cancer, has resulted in an increased output of research and development on dietary fibre and related carbohydrates. In recent years, hundreds of new products have been launched annually with claims regarding their fibre content. Existing and new fibres are also increasingly incorporated in products for specific target groups, such as babies, farm animals, pets, and for clinical nutrition. New