

DR STUART GORDON

*Cotton Seed Distributors
Researcher of the Year*



EXTENSIVE EXPERIENCE IN COTTON TEXTILES

Dr Stuart Gordon's earliest work in cotton was as a CRDC post-graduate student starting in 1990. This foundation crystallised Stuart's ideas on the direction that the Australian cotton industry should take with respect to fibre quality and embedded his commitment to the industry.

After his PhD, Stuart undertook post-doctoral fellowships with CSIRO and in the USA. He also had the opportunity to spend time in all of Australia's spinning mills. He learnt first-hand the affect of fibre quality on yarn quality.

During this period he established many important long term relationships. These have helped to facilitate direct, unencumbered access to post-harvest cotton research by spinners, merchants, international researchers and textile machinery manufacturers over the years.

THE START OF THE RESEARCH SPINNING PLANT

Stuart joined the CSIRO Division of Textile and Fibre Technology in late 1999 following extensive experience in the Australian cotton spinning industry. He was responsible for the planning, purchase and commissioning of CSIRO's cotton spinning plant and cotton gin. He also recruited and developed a world class post-harvest cotton research team. This created an important link between CSIRO's breeding and crop management outputs to the cotton textile quality.

Under Stuart's direction the team has now grown to more than 12 full time staff. They engage with agronomists, growers, breeders, ginners and spinners to continuously and significantly improve the quality and performance of Australian cotton.

THE GO-TO GUY FOR POST-HARVEST COTTON

Stuart remains the key point of contact for researchers and industry people for information about post-harvest cotton research both locally and internationally. He continues to be invited to take on international co-ordination and representative roles in the textile industry and participate in a range of international conferences and trade missions.

FIBRE QUALITY OUTCOMES

Stuart's life work has been to improve the quality of Australian cotton and to increase the use of cotton fibre in textiles.

He has led international mill surveys that provide the cotton industry with comprehensive and objective fibre quality benchmarks. Together with Dr Geoff Naylor he has also

developed through to commercialisation, an instrument, Cottonscope. This is the first tool that measures cotton fibre fineness and maturity, directly and quickly.

Stuart and his colleague Dr Andrew Krajewski's desire for objectivity and control in cotton gins have led to the development of a range of new sensing technologies. These sensors provide indications for moisture, contamination and seed roll pressure. The use of the CSIRO's moisture sensor reduces gas consumption used in drying and avoids fibre breakage and length discounts. The technology has the capacity to save the industry in excess of \$12M/year in energy costs alone.

He has spent time analysing the effects of various ginning components on fibre quality. By identifying changes in settings and machine adaptations he has found ways to reduce fibre damage in gins and lint cleaners and reduce grower price discounts.

Stuart and his colleague Dr Shouren Yang have developed Cottonspec. This is a yarn quality prediction model, that gives breeders, merchants and spinners alike the ability to accurately relate fibre properties to final yarn quality. The model is currently used by leading spinners in China to inform them of the right cotton mix to use for particular yarn counts.

NEW MARKETS FOR COTTON

Stuart has helped create broader and new markets for Australian premium Upland cotton. He has demonstrated the value of new Australian long, fine cultivars as potential substitutes or blends for more expensive Pima cotton in spinning fine-count high quality yarn.

EXTENDING KNOWLEDGE INDUSTRY-WIDE

Stuart is very proud of his involvement with Mr Rene van Der Sluijs in their establishment and operation of the CSIRO's three day Cotton 'Field to Fabric' course. More than 250 students have attended and graduated from the course since 2005. He believes this course empowers all members of the value chain to understand the technology, constraints and opportunities inherent in all the other parts of the chain.

Stuart's 24 years of experience demonstrates absolute commitment to the Australian cotton industry. He continues to be active in post-harvest research, with an international profile but committed to maintaining his relationships and contact with people from across the cotton value chain in Australia.