Cottonspec - a Tool for Cotton Fibre and Yarn Quality Management

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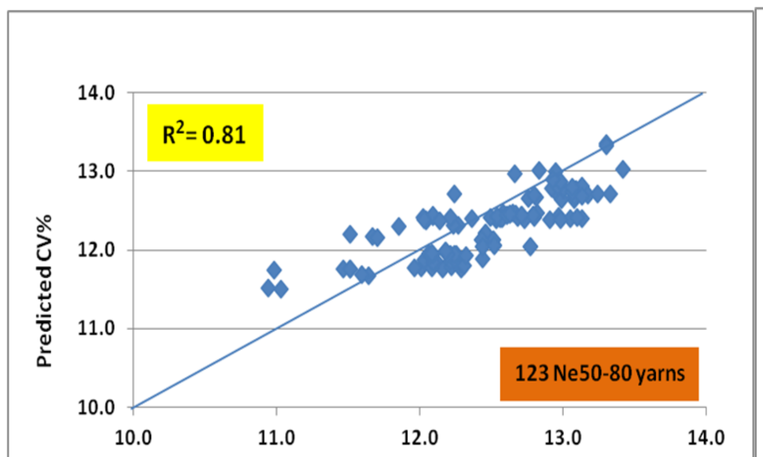
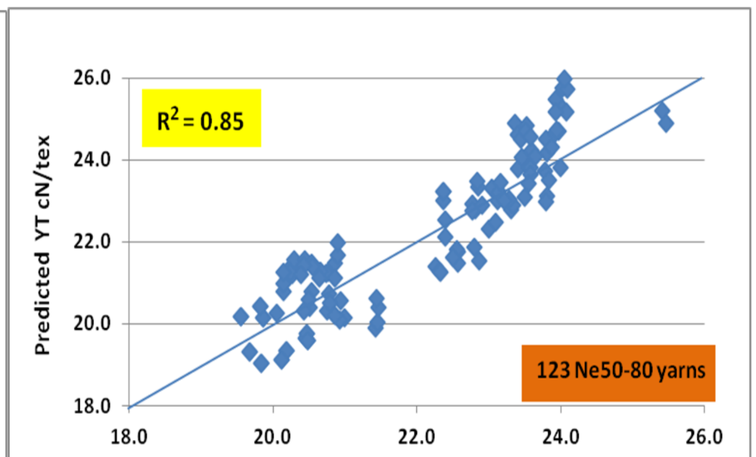
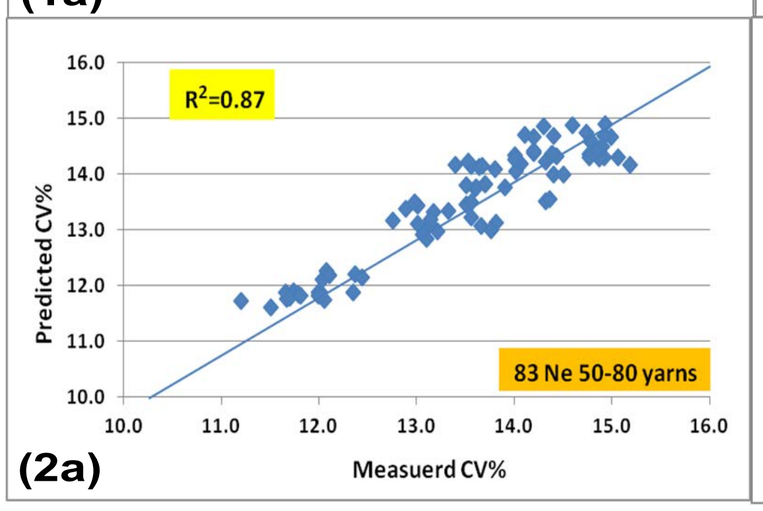
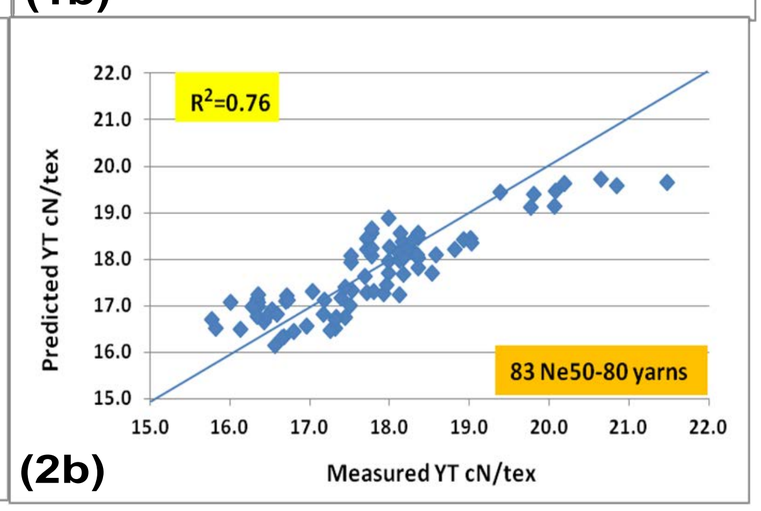
Cottonspec, a spinning prediction software, has proven a useful management tool, giving spinners immediate feedback on the fibre quality they use. The program gives excellent predictions of yarn quality. Cottonspec has also been used to demonstrate the value of new varieties of long staple cotton produced by Australian growers. Cottonspec has the capacity to improve the classification of Australian cotton by linking cotton fibre quality with yarn quality with theoretical modelling. The prediction algorithms favour long, strong, bright cotton, i.e. play on Australian cotton fibre strengths, and will utilize Australian test methods for fibre fineness and maturity, which will give the yarn quality models more prediction power. The package can be used by spinners to select the most suitable cottons, which best meet the spinner's needs, or as a quality control tool to benchmark performance against "best commercial practice". Cottonspec can also be used as a trading tool for merchants to promote the value of a particular growth, or used by cotton researchers and grower collectives to assess and promote new cotton varieties.









Cottonspec validation trials

Measured versus predicted yarn property from Cottonspec program.
Figures 1a & b: mill 1, (a) yarn evenness, (b) yarn tenacity.
Figures 2 a & b: mill 2, (a) yarn evenness, (b) yarn tenacity.

Impacts

The impacts of Cottonspec on mill performance are demonstrated by the example of the Chongqing Sanxia No. 1 Mill, a key partner mill in the project. Established in 2005 this mill is one of the most modern mills in China. Through collaboration with the Cottonspec project the quality of yarn produced by this mill has lifted dramatically. Before the project this mill had never used Australian cotton. In 2010-2011 this mill used 3350 tons of Australian cotton, making up about 20% of its lay-downs.

Mill feedbacks

"The software is easy to use and has good adaptability. It is very useful for cotton spinning mills and can help them to stabilize the production and to raise yarn quality. In particular, the software can reduce the costs for conducting the sample spinning work. The software will play active roles in reducing the mill's production costs and improving their production efficiency." ***Shandong Luthai 11 November 2011***

"Applications of the cotton yarn quality prediction software have greatly improved our mill's production efficiency, helped the purchasing department staff to choose the most suitable cotton, and accordingly reduced the mill's production costs, and greatly raised the economic efficiency of our company." ***Chongqing Sanxia 12 November 2011***

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