Satisfying the Market

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Written 21 June 2000

1. Defining the Market

World cotton production for 2000/2001 cotton year (1st August – 31st July) is expected to be around 87-88 million bales. World consumption is expected to be around 90 million bales. Two thirds or around 60 million bales of the global crop will not be exported, but consumed by the producing country. This puts world trade (country to country movements of raw cotton) at around 27 million bales annually.

Why is this such a vital statistic for Australia? Because Australia this year will have to export 94% of its total raw cotton production. Australian domestic consumption of raw cotton remains below 200,000 bales per annum, so with no large domestic market and no Government subsidy schemes, every additional bale produced by Australian farmers has to find a home in another country. With no protective price buffer and no economical way of carrying stock every bale has to be sold under very competitive quality and price scenarios and without the subsidies many of our competitors are receiving in one form or another.

To further break down the export trade of raw cotton into broad quality groups, we start to gain an appreciation of where Australian cotton fits in the global market.

By segregating the market into the three main use groups 1 Extra fine/fine 2 High medium/medium (upland styles) and 3 Course count, we arrive at the following set of statistics:

Raw Cotton Use	Export Demand (million bales)	Australian Production (bales) %	%
1 Extra fine/fine	4.5	20,000	.45
2 High medium/medium	17.8	2,800,000	15.73
3 Coarse count	5.0	190,000	3.8
Total	27.3	3,010,000	11.02
4 Domestic Consumption	59.9	190,000	1.32
Total	87.2	3,200,000	3.67

As outlined above, every year Australia has to capture around 11% of the global market and more importantly to stay in the better price bracket, we have to capture almost sixteen percent of the high grade medium staple market. To satisfy this market quality cotton is essential. In fact, as stated recently by a respected writer in this field, "We can expect our customers will increase their quality demands year on year...the pressure on the Australian cotton industry to improve quality will not relax". Very true statements, the challenge therefore is to respond to these increasing quality demands being imposed by our current and future customers.

2. Australian Cotton Quality and Production

Since Australia is not a volume player in the ELS (extra long staple for extra fine and fine counts), coarse count or domestic consumption groups, the focus of our product has to be high quality medium staple raw cotton suitable for the export market. Those Australian growers who are for one reason or another in the coarse count category, obviously do not wish to remain there as it is less profitable, and they are usually only there due to poor seasonal conditions. We are therefore aiming to produce and export over 3 million bales annually or around seventeen percent of the world's high grade medium staple requirements per annum. We will only continue to do this is we have the right product (quality) at the right price consistently, as markets can only be developed and maintained over longer time frames by consistent performance.

3. Product Development

There is no doubt that the Australian cotton industry, through the work and dedication of our researchers along with the assistance and direction given by other sectors of the Australian cotton industry, has delivered a very marketable product to the merchant community. This fact is fully recognised by all traders of Australian cotton. Additionally Australian cotton production remains economically sustainable due to yield, disease resistance and many other key factors.

Leaving these very positive factors behind, as we look forward, the focus of my speech will be on the negatives we are encountering in the market place not the positives.

While world fibre consumption is increasing, sadly for us the fastest growing sector of fibre consumption is in man made fibre and the profitability to spinners in many cases is better in this area than with natural fibres. This dilution of the natural fibre preference of consumers is disturbing.

I mention this only to highlight that not only does Australian cotton face very stiff competition from other growths of cotton but also from man made fibres. In terms of setting future quality goals, in

order to satisfy the market, the attractiveness of man made fibres to the spinner should be recognised. The production process of man made fibre allows each fibre to be uniform and contamination free, with a minimal waste factor. A distinct advantage to a spinner.

To compete effectively in the future we must therefore strive to produce that perfectly uniform piece of cotton consistently, in order to satisfy the market. Lets now look at each fibre characteristic and what is required to satisfy the market.

4. Individual Fibre Characteristics

1. Colour – I have heard it said many times by spinners and repeated by growers that colour is not so important. This comment is a little misleading. Given the market segment we are in, it is important to maintain a minimum colour standard of strict middling. In a dry harvest year, Australia cannot sell as much good middling as is produced, therefore strict middling is good enough. However in the wet harvest years middling (base grade) is not good enough for our spinners. Under USDA classing standards middling can be as low as a flat/dull piece of cotton which is not desired by our customers. The current Liverpool discount from strict middling to middling is 150 points/ lb (1.5 cents/lb), this is a reflection of the buyers' valuation of Australian middling versus strict middling.

2. Leaf – most mill customers of Australian cotton have invested in trash removal systems, therefore spinners can remove a reasonable amount of leaf, however much of the Australian leaf tends to be pin leaf and is difficult to remove. Again I would view middling leaf or 3 leaf as the maximum amount of leaf mills would like to see in the sample.

3. Combined grade – As per the colour and leaf comments above, the minimum desirable grade for Australian cotton is a middling plus (30), that is, strict middling colour with up to middling or 3 leaf.

4. Contamination – Australia has built a strong reputation as basically a contamination free cotton. Under the traditional assessments of contamination this largely still holds true, however we do occasionally see poor management practice on farm and in the ginning factories, resulting in contamination with such products as plastic tarp and oil/grease. More importantly however Australian cotton is increasingly under the microscope due to bark contamination, which is a direct result of mechanical picking. As technology improves the detection of any contamination (including plant matter) in the fibre becomes a serious issue.

   With the latest technology available for the removal of external contaminates in the spinning mills, hand picked growths which have external contaminants are becoming less of a problem

for mills to handle and the focus of the contamination issue at mill level is switching to the contamination introduced by mechanical picking – bark, leaf, doffer/rubber contamination, and possibly oil/grease.

While season conditions play a big part in the stripping of bark during the picking process, the overall attractiveness and value difference or premium paid for Australian cotton is being lost, due to technological advances in removing external contaminates in the spinning process and the increased detection of the above mechanically introduced contaminants, which affect by volume much more of the cotton and are harder to remove.

5. Length – Australian cotton has been consistently successful in improving this characteristic. An increasing percentage of our crop is now classified as 1 5/32" and even 1 3/16" in length. I have encouraged spinners around the world to look at innovative ways of utilising this length to create a niche market or to achieve cost reduction by spinning Australian cotton in counts above 40 count (eg, 50 count). However, the high nep count of Australian cotton appears to be holding back the possibilities in this area and while on the 50% measurement system length is not a problem, length uniformity, neps and short fibre content remain a problem. At this stage it is doubtful if further improvements in average length will create extra value for our product.

6. Micronaire – In recent year's Australian cotton has produced a more defined micronaire range, with the major percentage of the 1999 and 2000 crops in the range of 3.8-4.5. There is little doubt that 3.8-4.5 is now the "premium". Micronaire range as opposed to 3.5-4.9 the old Group 5 micronaire range. Increasingly Australian cotton is sold with micronaire specifications of 3.8-4.5 with an average of 4.2 requested by buyer. This by default makes 3.5-3.7 and 4.6-4.9 micronaire a discount cotton. There is still some concern with the tendency of certain varieties and certain areas to produce micronaire that is principally in the 4.5-5.3 range, which is too coarse to be marketed on an equal footing with 3.8-4.5. The discounts for low micronaire, while quite severe need to reflect that low micronaire cotton is principally a coarse count cotton and therefore has little grade or staple value above a strict low middling 1 1/16". In recent years the micronaire produced has been satisfactory, with the bulk of Australian production in the 3.8-4.5 range, and very little low micronaire.

7. Strength – The average strength of Australian cotton has shown continual improvement over several decades. The average strength however still falls short of San Joachim Valley cotton (SJV). Minimum strength requirements of 30-32 and above are needed, when combined with the other high grade properties of our cotton. High grade low strength cotton is a discount cotton. Good strength requirements are critical to the spinner due to the high speed high capacity of modern spinning equipment and the direct correlation of strength in raw cotton to the strength of the yarn.

5. Lesser Known Fibre Characteristics

I will now move onto some of the lesser known measurements or characteristics of cotton. There is little doubt there will be continued change with regards to the way we value a piece of cotton.

With rapid advancement taking place with objective measurement, we are moving closer to adding such characteristics as maturity, length uniformity, nep count, short fibre index and waste percentage to the current assessment criteria of colour, trash, length, strength and micronaire. The separation of colour and leaf into two separate classifications as opposed to the current combined grade is a big step forward for Australian cotton and as HVI colour becomes more refined and more adopted the colour components of Rd (reflectance) and +b (the degree of yellowness or pigmentation) will become more important assessment criteria.

8. Maturity – Immature fibre contributes to our low length uniformity, high nep count and high short fibre index readings on the HVI. The technology available for measuring maturity is still in its infancy and not widely used. Until this changes, buyers will continue the practice of "avoiding" immature cotton by purchasing cotton based on micronaire readings of 3.8 and above. Therefore the likely immediate advantages of being able to test maturity in volume is that low micronaire finer cottons that are fully mature will be better accepted by spinners.

9. Length Uniformity – the ratio between the mean length and the upper half mean length is known as the fibre length uniformity index. The lower the index value, the higher the percentage of short (and possibly long) fibres that are in the sample. Australian cotton needs to improve length uniformity as opposed to length (as measured under the upper half mean system).

10. Short fibre index – The short fibre index is a value that is calculated using a sophisticated algorithm. The SFI is an indication of the amount of fibres that are less than 0.5 inch in length. Readings above 10.0 on the HVI are considered high.

    One of the major differences between man made fibres and cotton is the presence of short fibres in ginned cotton. Not only does fibre length on one seed vary widely, but ginning and cleaning also breaks fibres into shorter segments.

    Australian cotton is considered a high short fibre content cotton, although it does seem to vary widely from one season to the next.

11. Neps (Dead fibre, white specks) – Currently the single biggest complaint area in respect to Australian cotton. While the collection of data and study in respect to neps is continuing, little

of this work has yet led to firm recommendations in respect to variety selection or management practices, which can explain the large variance in nep readings between various samples of cotton. What is known is that each mechanical process applied to cotton including picking, ginning and spinning, multiply the amount of mechanical neps in the cotton. The other categories of neps include biological neps caused by trash particles and seed coats entangled in the cotton and white speck caused by thin walled or immature fibres.

Australian cotton is at a disadvantage in respect to nep count because of our mechanical picking and saw ginning, as opposed to hand picked cotton and or roller ginned cotton, but what part fibre maturity and varieties may play in this high nep count is not widely known.

With the cost minimisation practice of once over picking and the use of chemical boll openers to assist in achieving this, combined with the drive for turnout in ginning, Australian cotton will remain at a comparative disadvantage to hand picked cottons in the area of average maturity, short fibre content and nep count. Fully recognising that harvest time is a critical and nervous time for Australian cotton producers, I do believe however more attention does need to be paid in respect to the final quality outcome desired by buyers, throughout the picking and ginning processes.

12. Waste - Waste is the percentage of cotton "lost" in the spinning process, the amount of "non useable fibre" extracted from each bale during the spinning process during cleaning and combing. Removing this "waste" cotton also removes some of the nep and short fibre which assists the spinners who use Australian cotton, but the spinners must then value the cost of this "lost" fibre. While this fibre may be utilised in another cheaper mix, the comparative valuation of the "waste" percentage in Australian cotton versus other growths comes into the buyers pricing models. The more "waste" in the bale, whether it be trash, neps or short fibre, the lower the comparative price a spinner is prepared to pay.

With ginning in Australia placing an overall emphasis on turnout, while financially the best result for the grower, this is causing a problem at mill level with the amount of waste fibre in the bale and therefore results in a lower "basis" or comparative value for Australian cotton versus other less wastey cotton growths.

13. Stickiness – Generally Australian cotton does not have a problem with stickiness. Stickiness or sugary deposits in the fibre are know as "honeydew" and are produced either by feeding insects (eg, white fly, aphid) or by the cotton plant itself. The problem stickiness causes in the spinning process means there is practically zero tolerance to this type of contamination when trading cotton and satisfying the market.

What is certain in terms of satisfying the market is that Australian cotton needs to improve its maturity rates, length uniformity, SFI and nep count. These fibre quality issues are not only serious issues in spinning but also in downstream processing, including dyeing.

6. Ginning

Australia has a rather poor international reputation in respect to ginning. It is the belief of many spinners that the speed of ginning contributes substantially to our nep and short fibre problems. While improvements continue in the ginning of the crop, not enough is known about what can be done or what should be done to reduce the effect of saw ginning on the above mentioned problem areas.

Summary

Australian cotton has established a good quality base from which to work. In the majority of seasons colour, length, micronaire and increasing strength are adequate for the current demands of our markets. The problem areas of nep, length uniformity, SFI, maturity and overall waste percentage need to be addressed.

In satisfying the current market the a "most marketable" piece of cotton would be:

Colour	SM
Leaf	2
Staple	36 and above
Micronaire	3.8-4.5 (average 41-42)
Strength	32 and above
Uniformity	83 and above
SFI	7.5% or less
Neps	200 or less
Maturity %	90+
Contamination	Zero

It must be recognised that you basically need all of these, one defect will drop the cotton into a lower category. Increasingly spinners are demanding the top six (as above) on contract, and as we gain additional data and high speed measurement technology, neps, SFI and maturity will increasingly be added to the mills specifications when purchasing Australian raw cotton.

With the size of the Australian crop now regularly over 3 million bales and the quality, and reliability of shipment (including sanctity of contracts) as strong selling points, Australian cotton is increasingly

becoming the base in the spinners mix. Up until recent times Australian cotton was regarded as a fill in cotton, used April – September but not so much year round. This has tended to change in recent years, aided by the favourable old crop (May/July) to new crop (December/March) futures spread. Increasingly as Australian cotton becomes the base in the spinners mix it will be required to carry the mix. The other cottons purchased which fill in around the base are used to "cheapen" the mix or are not so reliable on quality or delivery or simply only available at certain times throughout the year. This scenario can only lead to the spinner applying tighter and tighter specifications to the Australian cotton they buy to ensure it can "carry the mix".

In several of our most recognised markets we have replaced a considerable amount of SJV cotton (eg, Japan and Korea). While Japan is a little different as they basically only consume Australian and SJV, the affects of being successful and achieving our early aims of replacing SJV year round, does require us to perform quality wise year round and every year, because of the spinners increased reliance on Australian cotton.

While we may have achieved our aim in terms of market share, price trends are a clear warning to Australian cotton producers.

When SJV was the stand out cotton for medium count spinning the "basis" over New York futures was often 10c and above (sometimes 15c). The availability of Australian cotton as a reliable substitute to SJV today sees SJV being sold around 7.0c over New York futures. Australian cotton is still a discount cotton to SJV, mainly due to the unreliable picking conditions (remember it never rains in California) and to some extent strength. In both Japan and Korea Australian cotton has taken sizeable market share off SJV (at cheaper prices). This year for the first time we have seen Chinese cotton take market share from Australian cotton (at cheaper prices). As the quality of other growths improve, we are under the same threats or attacks that Australia made on SJV markets and price discounting will be a big factor.

Australian cotton will have to continue to improve its quality while at the same time not expect "basis" price appreciation. Australian producers will be asked to produce a better and better product at the same or cheaper price (basis wise, ignoring New York futures fluctuations). Supply and demand factors will see cycles in the base price (New York futures) of agricultural products the "premiums" however will be harder and harder to gain in our markets due to increased competition. Without continued quality improvements premiums turn to discounts and stocks will build in years of world over supply.

The often present chance of inclement weather at harvest time (rush to pick), combined with chemical boll openers and once over picking, plus Australian ginning emphasis on turnout are some factors credited with contributing to the irregularities in Australian cotton fibre. These include the amount of immature fibre, high nep counts, low length uniformity and high short fibre. The effects of bad

weather at harvest time on traditional characteristics of colour and leaf content, does leave Australian cotton vulnerable to heavy discounting.

While it is fully recognised that little can be done (at least in the short term) to eliminate these practices or events, the more research into understanding the effects these processes or events have on our fibre characteristics, the more we can adopt minimisation strategies through Best Management Practices developed as a result of this research.

To continue to satisfy the market, Australian cotton researchers, producers and ginners must address these quality issues urgently, plus continue to enhance existing fibre characteristics in order to "stay in front of the pack" and gain enough market share to annually liquidate an Australian crop of over 3 million bales. No significant carry over from one year to the next, has yet occurred with Australian cotton. If we can learn a lesson from Australian wool it must be to continue to satisfy the market and do not lose track of what is required by your customers in order to achieve this aim, and above all do not build stock.