

## ORGANIC COTTON - A GROWERS PERSPECTIVE

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"The Sydney Morning Herald's latest Saulwick poll shows that 57% of Australians rate environmental protection as more important than economic growth. Despite high national unemployment, only a third of those surveyed rated economic activity as a higher priority." The Cotton Reel May/June 1994.

In 1991 we planted some 30 acres of cotton around a workman's house with the intention of not spraying it with any insecticides or defoliants. We were pleasantly surprised when it yielded about 0.4 bale/acre dryland on back to back cotton country - probably about 1/3 of a comparative commercial yield. The following year we joined an I.P.M. trial with Dave Murray where the totally unsprayed yielded 80% of the commercial yield. We subsequently sold the crop for a small premium. Our customers had very good acceptance and continually urged us to become certified and supply larger quantities. Following our two years results, we believed that with the premium offered, we should be able to produce a profitable crop most years - particularly if we were prepared to use the products available to us (B.T., Trichogramma, Neem etc.). Ian Hayllor and I own a farm at Jimbour which was certified. I believe we will be very fortunate if we can continue to grow commercial cotton in 5 or 10 years time with the same total reliance we have now on a few key chemicals. The whole world is becoming environmentally conscious, which, in moderation, most of us would believe is a good thing. If the customer wants certified organic cotton, and is prepared to pay a substantial premium, then it is surely a very good way of supporting research on the dynamics of natural enemies in large scale plots. It is only on large scale trials that this can be done as small plots

are subject to too many outside influences. If my assumption on the future of commercial cotton has even a remote chance of being true, then now is the time we should be acquiring all the knowledge we can in these crops. Obviously, transgenic cotton is the saviour the whole industry is waiting for and hopefully it will prove as outstanding as initial results appear. However, even in these crops, natural enemies would be important and could even be more important than in our current crops. In November 1993, we planted with a belief that:

- a) we could grow a crop of reasonably acceptable yield,
- b) the operation would, on average, be financially viable.
- c) we would gain some more knowledge of I.P.M. from which our commercial operation and possibly the whole industry would benefit in the future.

The prospect of growing a crop without handling chemical insecticides did appeal to us although we had grave reservations about not using any herbicides (even glyphosate) or fertilizers. However, these were the rules and we abided by them.

We have no idea why we were unable to achieve any worthwhile control with regular *Trichogramma* releases or to foster a worthwhile resident population of them or any other natural enemies. We didn't try to control our first wave of *Heliothis* believing we could encourage predators and parasites and that we would go all out on the next wave with B.T. However, our next wave was heavy and continuous, and, without any worthwhile predators, we were unable to control *Heliothis* with B.T. sprays. In my opinion, understanding the population dynamics of predators and parasites is crucial if organic cotton is to succeed and is also very important for raingrown cotton in years and areas where high inputs cannot be justified.

With the benefit of hindsight, it appears that the tougher the conditions, the better are the chances for organic cotton. The Heliothis are less attracted, the bushes are smaller and easier sprayed (bearing in mind that coverage is paramount with B.T.) and for some reason we have had better predator populations under these conditions (although our experience is limited and this may be no more than coincidence).

Marketing organic cotton is difficult and relies heavily on a good relationship between the supplier and the end user. The end user needs to know he has a reliable supply, not just for one year as there is no use creating a demand that can't then be filled. Also, a reasonable amount is required so the product can be promoted economically. One of the big dangers as I see it is that "organic" product can be imported into Australia from countries where the guidelines are very lax or non-existent and be sold with no checks or regulations by any government bodies, despite the strict guidelines for our producers.

It would obviously be impossible for us to compete when commercially grown cotton could be certified "organic" by some anonymous grower in some far away country and freely imported into this country and sold to an unsuspecting public for a premium lower than growers here would need to have any chance of staying in business.

We must all accept that consumers (who are, after all, the only reason for cottongrowers existence) are becoming more environmentally sensitive and some are prepared to pay for their beliefs. Cottongrowers must attempt to meet these demands and be seen to be attempting to meet these demands, or we will find growing our crop more difficult in an environmentally conscious world and will miss opportunities to expand our market share.

I congratulate the industry on the money and effort they are spending on food sprays, parasites, soft chemicals, varietal selection and the whole integrated pest management ambit, and also on the positive way they have supported us. On this note, the industry's support of the Co-operative Research Centre for Sustainable Cotton Production is commendable and shows that there is a genuine concern among cottongrowers for the long term health of our soils and environment. On organic farms, positive aspects of having such large uncontaminated research areas to study the above and organically certified chemicals will far outweigh any negatives such as "someone doing it wrong". The fact that some commercial cottongrowers have been prepared to have a go at organic is in my view very positive P.R. for the whole industry. The biggest danger is that someone will import "organic" cotton with questionable certification and source which, if found to have residues, would taint our growers and probably totally ruin whatever organic industry we have. Although our crop was, to all intents and purposes, a financial failure, we are proud to have been involved with the industry people who have been so positive and I would urge the whole industry to continue to support the growers who are prepared to grow organic cotton.

It is probable the I.P.M. of the future will rely heavily on predators, parasites, pheromones, food sprays and deterrents, and that these systems will be developed at least in part in these organic fields.