

CONSULTANT'S VIEWS - THE RESEARCH GAP
CENTRAL QUEENSLAND

This cotton production region encompasses the Biloela, Theodore and Emerald irrigation areas and some 3,000 hectares of dryland cotton in these areas as well as the Bauhinia Downs and Arcadia Valley districts. In 1985/86 the irrigated and dryland area of cotton in Central Queensland totalled 18,200 hectares.

Research is currently conducted in Emerald by the D.P.I. and to a lesser extent by Siratac. Most production aspects are or have recently been investigated, e.g. water deficits, fertilizer trials, water by nitrogen interactions, pest management and crop rotations.

For the Biloela-Theodore irrigation areas, short of plant breeding, disbudding and Siratac associated trials, very little research has been conducted on cotton in recent years.

Research on dryland cotton in this region has been virtually non-existent. Growers have had to develop their production methods using their own ingenuity supplemented by consultants, visiting industry field personnel and extension literature.

We believe the success of the modern cotton farmer is becoming more dependent upon his being made aware of, selecting and implementing appropriate research and new technology. This requires a strong link between researcher and grower. It is upon this link that we wish to concentrate our comments within the context of the following questions.

1. Are research needs being addressed by researchers?

We believe research needs are largely being met at Emerald, but at

Biloela and Theodore they are not. At Emerald, intensive research and extension programs since 1983 have lifted district average yields significantly from 3.5 bales/ha. between 1981 and 1983 to 6.1 bales/ha. between 1984 and 1986, a 74% increase! Yield improvement has occurred at Biloela and Theodore over the same period but it has only been around 30%. Obviously the Biloela and Theodore growers have not received the same benefits from research that the Emerald growers have.

We feel that Biloela and Theodore growers can improve district average yields by a further 0.5-0.75 bales/ha. if they are given the Emerald level of extension input. It would appear that much of the research done in Emerald and Narrabri is applicable to Biloela and Theodore. We do not necessarily advocate a significant increase to the research effort in these areas (i.e. Biloela and Theodore), but rather more emphasis on extension and demonstration trials.

2. If the research is available, are consultants passing on the information to growers?

In general, the answer to this question is yes. However, again we must qualify that answer according to the district involved. Consultants aim to provide their growers with the best interpretation of the available information, but have limited resources and cannot be expected to fill the role of extension specialist to all cotton growers in their district. We believe D.P.I. extension officers and Cotton Board field officers could provide a basic extension service in association with consultants. This type of approach has been operating successfully at Emerald, but

it has not operated reliably at Biloela or Theodore.

We understand the problem faced by government extension personnel. They must commit their time to a large area with diverse cropping patterns and cannot physically follow up all the advice they give. Cotton has become a more demanding crop in terms of the technological nature of the advice required, it is little wonder, therefore, that we find the government extension service in some areas is tending to become a passive supplier of general information, e.g. gross margin analysis, insecticide and herbicide rate information, etc.

We believe the Central Queensland cotton industry requires a regular input from a specialist in cotton extension to provide an active form of technology transfer to growers and consultants. That person, ideally, would have close contact with researchers and access to research information and be available to assist growers and consultants to interpret and apply that information district by district. He would be able to conduct demonstration trials and field days in collaboration with local extension personnel, consultants and cotton industry field staff. Furthermore, by regularly visiting all districts he would be able to provide the follow-up that many local, less specialized, extension staff cannot do.

3. If research is not available, is this information being conveyed back to researchers by consultants?

There is no simple answer to this question. In districts where researchers conduct trials or regularly visit, no doubt consultants have greater access and more opportunity to discuss areas

of research deficiency with researchers. The fact that this does not occur in all districts reflects that there is no organized mechanism for consultants to meet with researchers. To this end, we congratulate the A.C.G.R.A. for this segment in the conference and hope that it will stimulate closer contact between researchers, growers and consultants.

With the exception of this conference, however, the contact between researchers and consultants could be improved. We believe there are two ways that this can be achieved:

- (a) provide funding for researchers to make more visits to other cotton growing districts, and
- (b) make use of a cotton extension specialist as previously outlined.

While we would like to see more of the researchers in our area, we can appreciate that this would be a time-consuming process for them and detract from their research. Once again, a mobile extension specialist appears to have considerable merit for improving feedback from consultants to researchers.

4. Where are the research gaps and how can they be reduced?

As growers strive for and achieve higher yields, it becomes more difficult to determine the major limiting factor or factors on further yield improvements. Many progressive growers conduct their own trials as part of their fine tuning process. Unfortunately, because many of these trials are not rigorously monitored, potentially useful information is lost. Consultants are often in the position of casually observing these trials without having the resources to record and collate data from them. We believe

the cotton industry should include more grower's trials in its research programs, particularly in areas like Biloela, Theodore and St George where little cotton agronomic and entomological research is being conducted. The chemical industry should also give some consideration to participating in and supporting these trials where appropriate.

If our grower's trials were more carefully designed, monitored and analysed, it would give us more confidence in adapting research from other areas to suit our own. In addition to these trials we believe that the introduction of a system by which we could monitor the following aspects in more detail would be of benefit in defining the major limiting factors on yield each season - pest species and numbers; moisture demand of crop and atmosphere; soil test records; plant tissue nutrient levels; yields and grades.

Conclusions

Current economic conditions mean growers and consultants are under increasing pressure to produce higher yields and quality without increasing costs. This requires a very up-to-date understanding of current research results and technology. Keeping abreast of this information can, at times, be difficult for growers and consultants alike because of their limited time resources. We believe there is a need for better communication and demonstration of research and new technology in areas where large research programs are not being conducted. The answer we feel lies with the establishment of extension specialists to bridge the gap between growers and consultants on the one hand, and researchers on the other.

