

## **How Can Research and Extension Help Meet the Challenge?**

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### **Introduction**

The importance of research and development to the Australian cotton industry is unquestionable. History details the achievements such as plant breeding that have contributed to significant improvements in cotton yield and quality. Worldwide recognition exists for much of the research including the management of chemical resistance in Heliothis. Thirst for the latest research results and technology drives the industry extension efforts at an increasing pace. One can only contrast the success of the Australian cotton industry with the failures of those countries that do not have strong R&D programs. As growers we have become accustomed to researchers providing the basis for solutions to whatever challenges we have experienced. But there is no room for complacency. The question now is how can we maintain the efficacy of our R&D efforts to meet the challenges created by the increasing complexity of crop management, community and environmental scrutiny.

### **The Future**

“The best way to predict the future is to create it” (Paul Drucker)

The importance of a well-focussed R&D effort will be essential given the range and complexity of issues. There is a real sense of optimism that the combination of new generation chemistry, gene technology and integrated pest management could enable significant improvement in the control of heliothis. Research will continue to underpin solutions to production challenges and increasingly generate facts to support industry strategic needs such as Best Management Practice and sustainable utilisation of natural resources. Research will have a balance of short and long term goals. There is an opportunity to harness the benefits from broader participation within the industry to set R&D priorities and foster ownership of results. In the same context R&D objectives must not be confused with other industry objectives like promotion. Research programs will become increasingly collaborative between organisations, institutions and industries. There will be less dependence on government involvement. Extension linkages will be important components of the initial stages of research projects as well as assisting with dissemination of results. Growers will benefit from increasing emphasis on regional extension, demonstration trials and training. Courses for growers in integrated pest management and formation of area wide management groups being examples. Information availability will become even more immediate with advances in communication technology. Importantly information will need to be presented in simple formats that growers and consultants can use readily. Delivering R&D successfully in the future will have its own set of challenges.

**The Challenges**

“When facing a difficult task, act as if it is impossible to fail. When going after Moby Dick, bring along the tarter sauce.” (Author unknown)

Government funding of R&D is reducing. We need to promote the benefits of cotton industry R&D to our local, regional and national economies and communities. Cotton growers will also need to review their level of funding to ensure the benefits of a strong R&D effort is maintained.

Additionally state government commitment to R&D resources is declining. The importance of having independent researchers and research institutions needs promotion. At the same time universities and CSIRO are increasingly dependent on industry and commercial alliances.

Managing intellectual property rights and commercialisation of research outcomes without diminishing benefits to growers is a continuing pitfall when not well managed. Strong leadership and protocols are required.

Maintaining and developing the human resources in rural areas is a general problem. We need to continue fostering capable and committed researchers and extension personnel. Appointment processes need to have greater commercial flexibility.

One of the key factors for the success of cotton industry R&D has been the strong involvement of growers in providing leadership on priorities and directions. Commercial business demands are increasingly competitive with time for representation on industry organisations. Remuneration for industry representation is not a current practice.

**Conclusion**

Research and extension will continue to play an essential role in providing the basis for industry solutions. In an increasingly proactive manner R&D can provide facts to support industry strategic needs. The capacity to play this role will continue to be dependent upon a well resourced R&D effort with grower leadership in driving focussed programs and regular review of priorities.