

Overview of Controlled Traffic Farming in the Australian cotton industry

David Anthony

Chairman, Auscott Limited



David Anthony is the Chairman of Auscott Limited – a corporate farming company with extensive cotton growing, processing and marketing capacities in NSW, Australia. Through his 35 years in the cotton industry and as an agronomist David has worked on soil management, farming systems and equipment development to assist minimum tillage and controlled traffic practices.

Abstract: The Australian cotton industry has been a leader in sustainable soil management since the 1970s, sharing considerable research, development and field practice techniques with other cropping industries. Minimum tillage techniques which arose from soil compaction challenges in the 1970s changed the industry from heavy dependence on significant and frequent tillage to exploring control of where traffic passes occur in a field and developing the concept of permanent beds, defined traffic lanes and encouraging fine soil tilth in seed beds. In farming, silver bullets are rare and the same is true with controlled traffic farming where it is the integration of farming system components including **biological issues** such as genetics, weeds, planting configuration and diseases and **engineering tool** components such as equipment guidance, tillage techniques, planting technology and harvesting equipment that makes for a successful system outcome.

One of the key weaknesses in the CTF system remains the availability of flexible and adaptable equipment – the essential tools of trade. Australian farmers are pushing ahead with innovation in the way they grow and manage their crops and fields, but are frustrated with the lack of adequate equipment options. The lack of a universal standard in wheel and track spacing options and persistence with wheels rather than tracks on cotton harvesting equipment is hampering more holistic and sustainable controlled traffic systems in cotton. With the increasing weight of new cotton picking machines that have revolutionised the industry in terms of labour saving and productivity gains, work is needed to develop a better footprint on the ground than is currently offered, so that the maximum benefits can be achieved.

The almost decade long drought which reduced the irrigated cotton area in Australia by over 80% at its height in 2008 has stifled much of the exciting development that had been taking place in farming systems in the irrigated cotton sector. However, the rain-fed or dryland cotton industry has continued to make advances and has developed some very exciting systems that optimise the return on available water but also incorporate very efficient operations techniques. GPS technology, genetically modified cottons and effective rotations

have been important components of these rain-fed systems along with the innovative and well considered approach of growers. The cotton picker wheel configuration, its weight and the need for pupae busting remain significant challenges.

In the irrigated cotton sector growers are experimenting with different row configurations as a means of combining their agronomic goals in farming systems with the tools available to create sustainable CTF systems. 1.5 metre beds with 3 metre wheel spacings in one such system worth exploring.

As CTF and minimum tillage have proven to be attractive and more efficient systems, the industry will continue to pursue its goals, but it needs to have the key machinery manufacturers collaborating and cooperating with them.