CRDC 30C.

Proceedings of the Soils & Agronomy Coordination Meeting

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Richard Williams Conference Room
Australian Cotton Research Institute
Narrabri NSW 2390

Cotton Research and Development Corporation

Cooperative Research Centre for Sustainable Cotton Production

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Soils Research Priorities
(notes from a recent ACGRA meeting)

Dave Anthony & Harley Bligh

The ACGRA discussed what the goals, objectives and directions it should be following in terms of research into soils, tillage and engineering issues. It was felt that agronomy and soil-tillage-engineering issues should be amalgamated under a "farming systems" title that provided for a more multi-discipline approach to farming practices closely related to land preparation and soils issues.

Goal:
To develop cotton farming systems which produce sustained high yields of high quality cotton under irrigated and rain-fed situations in an environmentally and economically responsible manner.

Objectives:
- To identify farming practices which contribute to a soil resource which supports highly productive cotton on a sustained basis.
- To identify the key soil parameters which are responsible for soil physical, chemical and biological health.
- To encourage a multi-disciplinary approach to farming options with particular attention to the interaction between various agronomic factors eg. soil structure, weeds and disease.
- To identify the tools required by farmers to pursue the most desirable farming practices.

Limitations requiring research:
The group identified issues which it sees as significantly limiting successful farming systems:
Stubble handling - Machinepak development important
Pupae control measures
Weed control in minimum tillage systems and stubble retention farming including herbicides

Nutrition	-Nutripak development important
	- nutritional factors in minimum tillage and stubble-retained systems
	- nutritional factors in B.T. cotton fruiting patterns
Environmental work	- reducing sediment and pesticide run-off
	- stubble retention systems
Salinity work	- this need to be on-going and is seen as a very serious issue where prevention is the key
Equipment work	- guidance system work needs to be completed from listing through planting to cultivation
	- stubble handling techniques
Precision farming	- require more of a discussion paper from Prof. Alex McBratney on this issue

Collation of existing research:
The members raised a number of times the issue of collating and making accessible a database of existing research on farming system issues. This was seen as an essential step in identifying what research is further required and regarded as an important research project in itself. The ...pak system eg SOILpak and NUTRIpak was identified as a useful format for extending existing research.