BEST MANAGEMENT PRACTICES

—

WHERE HAVE WE BEEN AND WHERE ARE WE GOING?

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Introduction

Two years ago, the first draft of the Best Management Practices Manual for Minimising the Impact of Pesticides ("Manual") had just been released. It was a booklet of some 70 pages, which listed a number of practices (with some details explaining the reasoning behind the practice), under four major headings. Apart from comments on some of the technical issues contained in the draft, and queries over the use of 'mandatory' language in the best practice statements, there were three issues which were raised consistently. These were:

- how do we use it? — how do we prevent it from being filed away as yet more information?
- what about the parts that don't apply to my farm? — if a particular practice was not seen as relevant, then given there was (initially) no mechanism to account for that, there was potential for the credibility of the entire document to suffer.
- how is compliance going to be checked? — how is the industry going to measure that the practices are actually being adopted?

It was therefore clear that the structure of the Manual needed to be improved so that these issues could be addressed. It is essential that any best management practices manual really is a manual, that is something that is used (not just read), as the word manual implies. A collection of statements, no matter how accurate or sound need to exist in some sort of framework whereby they can be used by a farmer on their farm.

Structure of Manual

The solution was to adapt a successful concept[1] developed in the United States, and utilised extremely effectively in Ontario, Canada. The core of the expanded manual is a series of self-

[1] The self-assessment worksheets are based on the self-assessment concept developed by Farm*A*Syst, Madison, Wisconsin. Their help and support is gratefully acknowledged.

assessment worksheets[2], which enable farmers to assess and document their own operation, based on the best practice guidelines and against a series of risk rated examples.

These worksheets then lead to the development of action plans designed to minimise the risk in areas highlighted as being of high risk during the self-assessment process. The original 'best practice booklet' is now a resource to be used in developing these action plans. Other resources (such as other industry and government publications and industry and government contact phone numbers; relevant legislation is also noted) are also identified in the event that further information is required.

However, self-assessment sheets can't hope to be comprehensive, and aim to only highlight the most critical issues. For farmers who want to take the development of best practices further, there is a process of hazard analysis described, which allows farmers to identify in detail issues for their own farm.

The manual therefore has two distinct components, one addressing the best management practice guidelines, while the second is directed at providing cotton farmers with a framework they can use to document and plan the environmental aspects of their farming operation. In fact, BMP could just as easily stand for best management planning.

This planning framework aims to provide a flexible process that will address the need to manage the natural resource base, and also meet producer's need (and thus addressing the first two issues raised by the first drafts, how is it used, and how are non-applicable practices catered for). It enables the user to

- objectively assess their current situation
- document decisions made to improve situations identified as being a potential risk
- monitor the effectiveness of those decisions.

This in turn provides a framework for checking adoption of the practices on-farm, thus addressing the third issue raised by the first drafts.

A generic document will always have limitations—if there are say 1200 cotton farms, then there are probably well over 1000 variations to be taken into account regarding how to manage that operation environmentally. By focusing on farmer developed action plans, based on a process which highlights the critical issues to be addressed, solutions are founded

[2] The self-assessment worksheets cover four topics—Farm Design & Management, Integrated Pest Management, Application of Pesticides, and Pesticide Storage & Handling.

on a combination of common sense, sound science, economics and site specific management. Accordingly, the adoption of best practices is substantially improved.

The lesson to be learned from this move to an expanded format is that there are two aspects of a best management practices approach to improving resource management—there are the actual practices themselves, as well the delivery method used to maximise adoption of those practices.

Implementation

Implementation of the Manual is being organised through the local cotton grower associations, (the active involvement of growers at a local level is essential for the success of the Manual) who will be responsible, together with the local Cotton Australia Regional Manager and/or extension officer, for distributing the Manuals, maintaining the record of recipients and organising the training meetings that cotton farmers will attend to be shown how to use the Manual. Centralised coordination and support for these activities is also provided

The brief description of the process is as follows:

- Cotton farmers are made aware that the Manual is available. This is being done through the various industry publications and communications streams from the local grower association, as well as relevant media publications (eg the Australian Cotton Grower).
- Generally, an introductory meeting is held, where the Manuals are distributed (together with a short "How to Use" guide, which contains worked examples), and a brief introduction to its development and content is given.
- Once farmers have received the Manual, a training day is organised where they are shown how to compete the Manual. The trainers will be primarily Cotton Australia field staff, supported by cotton industry extension and development officers.
- Once the cotton farmer has competed the Manual, a follow up meeting is organised with the farmer to ensure he has completed the relevant parts of the Manual.

A BMP Working Group has been established to oversee the development of the implementation process, as well as being responsible for ensuring that the day-to-day work is being performed. The BMP Working Group has representatives from the Australian Cotton Growers Research Association, Cotton Australia, Cotton research & Development Corporation and the CRC Extension team.

Key Benefits

Resource management in North America is headed down this path in a number of areas because of the limitations in the traditional agency controlled planning system, which tends to

- limit implementation to only those actions specifically required
- stifles innovation
- rely on cookie cutter solutions and not allow for site specific solutions.

It is generally accepted that when farmers develop plans on their own initiative (aided by technical input from both public and private sources), they will implement many more actions to maintain and enhance natural resources than they would with other policy mechanisms such as regulation or public-sector controlled planning.

This has been one of the core philosophies of the approach in Ontario: "self directed initiatives are more likely to work than command and control mechanisms of change". This approach also recognises that any environmental strategy must recognise that specific needs vary markedly from farm to farm.

The local, voluntary approach to solving (environmental) problems related to agriculture may progress more slowly than many in the environmental community deem acceptable. However, it should be understood that change occurs somewhat slowly in agriculture due to the extremely risky nature of farming....Allowing the users of agricultural chemicals to (in a sense) self regulate their activities provides an innovative and acceptable method of solving a problem that is very difficult for the state to effectively regulate (Waskom and Walker).

As stated two years ago, the creation and adoption of a best management practice approach by the cotton industry to the use of pesticides is one way of ensuring that the impacts of cotton growing on the environment are minimised. The approach has a number of definite advantages, including the ability to cope with a range of conditions, through the potential ability to develop local best practices—it is a flexible, on-going system that can be adapted as circumstances and levels of knowledge change, based on site-specific planning.

The biggest advantage of this approach, again highlighted two years ago and now even more apparent, is that it enables the cotton industry to retain a say in how it manages the environmental aspects of its activities.

Future Developments

Of course, if the cotton industry is serious about demonstrating that it is capable of planning its own environmental agenda, there are some responsibilities, the first of which is the need for the documented analysis and planning approach exemplified by the Manual. Another likely issue for the industry (and agriculture in general) will be certification. The cotton industry's strategy and ultimate goal is to have the regulatory bodies—ie the decision makers on issues which directly affect cotton farming—endorse the Manual. While the industry currently has their strong support, endorsement is likely to require evidence that the Manual is actually being used, being used properly, and having a positive impact. This evidence will most likely require some type of audit process, for example ISO 14000.

Conclusion

In summary, the advantages for the cotton industry in proceeding down the BMP pathway include the following:

- It provides the opportunity to look at your farming operation from a slightly different perspective and it will help you to improve your management of pesticides
- If cotton farmers want to retain some control over the environmental management of their farming operations, then it is essential that a significant proportion them undertake the BMP program.
- Building up the industry's involvement in BMP will enable flexibility to be built into the process of environmental management (ie cotton farmers can develop their own site specific plans at their own pace and can deal with issues in ways that best suit them). Note however, that to maintain a say in this process we have to demonstrate our commitment to BMP.
- A number of European countries are discussing using pesticides as a non-tariff trade barrier (particularly with respect to organochlorines, of which endosulfan is one). If the Australian cotton industry wishes to maintain its markets against this type of barrier and also continue to use such pesticides, then a demonstrated management system is essential.
- Adoption of BMP may be the only way cotton growers will be able to have access to products such as endosulfan in the future. It may also be the only way the industry gain access to some of the newer pesticides eg *Intrepid*®.
- The flexible, site specific and farmer driven nature of the process helps to improve the adoption of best practices.
- The manual provides a mechanism for extending and promoting research.

The Manual seeks to be a flexible, useable framework for cotton farmers. It is recognised that cotton farming takes place under a wide range of environmental, commercial and social conditions. By using a planning framework, cotton farmers are able to identify any particular constraints that they may be operating under, and then plan the most appropriate method for them of overcoming that constraint. The cotton industry has recognised the importance of the Manual and has enthusiastically endorsed it. By using the Manual, cotton farmers will be developing practical farm plans which minimise any impacts of cotton farming on the environment, as well as demonstrating their commitment to responsible resource management.

Acknowledgments

The funding provided by the joint research program partners (Cotton Research & Development Corporation, Land and Water Resources Research & Development Corporation and the Murray Darling Basin Commission) for the development of the Manual is gratefully acknowledged.

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