Managing the Change to Organics to Commercially Viable Organic Systems

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Foreword

The development of decision support tools for producers considering a change to organic production systems is an important step in the adoption of sustainable organic farming systems.

Identified as a significant impediment to the adoption of certified organic production, the lack of management models and accessible knowledge needs to be overcome before commercial producers can examine the impact of a change in production systems.

This publication considers this impediment and outlines an innovative pilot management tool to address the challenge. The project also developed a concise decision flow chart and user friendly report that allows producers to investigate the changes potentially associated with conversion to certified organic management systems.

The pilot decision support tool developed is a simple and potentially easily accessible tool for producers to utilise. It will compare current production systems against potential changes and highlights the impact of these changes. By collecting relevant information the tool may allow the progressive development of an organic farming system plan that in turn may contribute to a commercially viable conversion process.

Both the user-friendly report and the pilot self-test diagnostic tool were tested on a number of commercial producer and agronomists to gauge usefulness and accurateness. Organic certifiers also examined the potential acceptability of the process for certification purposes. Industry associations examined the pilot and agreed on the potential for further development into a fully interactive decision support tool.

This project was funded from RIRDC core funds which are provided by the Australian Government.

This report is an addition to RIRDC’s diverse range of over 1500 research publications, forming part of our Organic Systems R&D Program, which aims to facilitate the development of a viable organic industry through increasing the adoption of sustainable organic farming systems.

Most of our publications are available for viewing, downloading or purchasing online through our website:

- purchases at www.rirdc.gov.au/eshop

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Abbreviations

BFA Biological Farmers of Australia Co-op Ltd
NASAA National Association for Sustainable Agriculture Australia Limited
QDPI State of Queensland Department of Primary Industries
RIRDC Rural Industries Research & Development Corporation
USDA NOP United States Department of Agriculture National Organic Program
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Executive Summary

What the report is about

The development of decision support tools for producers considering a change to organic production systems is an important step in the continual efforts to increase the adoption of sustainable organic farming systems. This publication considers this and outlines an innovative pilot management tool to address the challenge. The project also developed a concise decision flow chart and user friendly report that allows producers to investigate the changes potentially associated with conversion to certified organic management systems.

Objectives

The objective of the report is to research and develop farm management systems to enable economically viable and standards compliant transition to certified organic production. By developing systems to enable producers to adopt progressive and programmed organic management practices, producers in previously high input farming systems such as irrigated cotton and horticulture may be in a better position to convert to organic production. Our strategy to achieve this was to work with producers, advisers and certifiers to develop and test models that may allow the impediments to conversion to be overcome.

Background

The Australian organic industry has grown considerably in the last five years. Acceptance by consumers is strong with demand forecast to grow by at least 20 % a year. What is concerning is that supply growth is forecast at little more than 10 % a year (Moore 2003). This fact highlights the need to increase the number or scale of producers converting to certified organic production. Identification of impediments to conversion is important and ongoing. Decision support tools that assist producers considering a change to organic production systems are necessary and an important step in the continual efforts to increase the adoption of sustainable farming systems.

The conversion process is viewed as daunting, long and drawn out by many conventional producers who have briefly investigated a change to organic systems. Practical information has been difficult to source. A common perceived impediment among larger conventional producers was the misconception that currently productive land had to be taken out of all production for a period of time. There were also concerns regarding irrigation systems and how to internally fund the transition to organic production. A review of previous research on conversion issues highlighted the need to develop systems to enable a viable and standards compliant transition.

Producers and agronomists argued that while there is a significant amount of technical information and case studies on organic production systems and certification, there is limited practical information on planning the conversion process. They argued that before professional producers consider a change in enterprise or diversification, they undertake thorough planning and investigation of the impacts of the change. It was the gap between investigating organics and submitting a request for certification that required addressing. This diagram below outlines the current general advice given in both industry associations and state agricultural department information sources.
Those interviewed for the project suggested a need for a general framework and structure to work through when considering the conversion planning process.

**Methods used**

Desktop research examined existing literature and technical information on various techniques of conversion to certified organic systems. This included certifying organisation’s websites both in Australia and internationally. Travel to the high input agricultural areas of northern New South Wales and southern Queensland allowed researchers to meet with conventional and certified growers to discuss existing information resources as well as understanding what they required from the process. Researchers also met with agronomists during the research to understand their requirements as they have an influence on grower decisions. As part of the travel a number of mini case studies were undertaken in an attempt to understand how a management model could be developed that would allow all types of agricultural enterprises assess the potential changes and challenges of converting to organic production.

Existing decision support tools were investigated and examined with the target groups. A combination of the best factors of each contributed to a draft structure of both the flow chart and pilot self-test diagnostic developed as a result of this project. These drafts were reviewed with the target groups and feedback collected. The methodology of the project evolved to develop the self-test diagnostic tool as well as a simple flow chart that highlighted the issues involved in the conversion process. The steps in the project are outlined below.

1. Case study approach initially - review current and past cropping systems, assess compliance and certification issues. Interview producers and certifiers for selected case studies.
2. Develop a flow chart highlighting conversion processes and decisions.
3. Use concepts from flow chart to build self-test diagnostic tool.
4. Test pilot diagnostic and analyse - liaise with accredited certifiers.
5. Review flowchart and self-test model with certifying organisations to ensure accreditation issues approved.
6. Review management models with producers to test and ensure viable conversion to certified status.
Results/Key findings

The research identified a key area that needed addressing in order to assist an economically viable conversion process. This was the need to assist producers in understanding the key factors considered important for successfully converting to a certified organic system.

Two initiatives have been developed to address this need. The first initiative is the development of a user-friendly report that includes a simple flow diagram to outline the individual steps and factors involved in the conversion decision-making process. The second is the development of a pilot self-test diagnostic for producers investigating the potential of organic production systems. It is intended that these may be built on and integrated over time to develop a partially certifiable self-test diagnostic accessible on line through organic organisations’ websites with broad applications.

The advantages of the timeframe diagram and flow chart are:

1. Allows producers to quickly consider the critical factors in the conversion process.
2. Highlights the potential timeframe and the need to map out the conversion process.
3. Prompts the producer to consider their own situation and what changes may need to be made.
4. Transferable format that can be adapted to fit into current industry and department guidelines for organic production systems.

Producers, agronomists and certifiers reviewed the flow chart and generally agreed that it assisted in setting out the key decisions in a logical and structured format. It was felt that the flow chart would add value to those investigating the conversion process, while understanding of the fact that specific detail is difficult to provide due to the nature of organic systems and individual enterprises history and potential.

The pilot diagnostic model was developed along the lines of an interview process. The information collected is analysed and a simple report generated. The self-test process provides a preliminary evaluation and helps determine the potential eligibility of the property for conversion to an organic system. It needs to be noted that the model is provided by way of a guideline only. The reports and results generated do not amount to professional advice or a guarantee that the property will be certified organic in a certain timeframe.

The self-test diagnostic tool developed as part of this project is a pilot example of what could potentially be expanded into the starting point for the conversion and certification process. The tool has been developed using Microsoft Access, a readily available and user-friendly database program. The potential exists to develop the tool so it can be hosted on organic industry or state agricultural department websites as the first point of entry for producers investigating conversion.

Implications for relevant stakeholders

The results of this research may allow producers considering certified conversion to organic systems to investigate the opportunity in a structured and logical framework ensuring that they do not overlook key criteria and issues. By involving the learning requirements in the process the producer has to determine what may potentially suit his/her requirements rather than a ‘one size fits all’ approach.

By incorporating the ability to collect and present information to certifiers for formal assessment, the model may save time for both producer and certifier/adviser. By presenting the information in a structured format both producer and adviser can examine key factors and potential issues in the conversion planning process.
Recommendations

It is recommended that;

1. The pilot self-test diagnostic tool be further developed to improve its usefulness to producers – this may include ranking of potential, integration of a budgeting tool based on information collected, links to approved inputs information sources and other resources.

2. The pilot tool should be hosted on certifying organisations websites allowing access to all interested producers for review and feedback

3. The flow chart of conversion decisions be publicised and made available through certifying organisations websites and publications and incorporated into the various – ‘Steps to Certification’ available in industry and Department publications and websites.
1. Introduction

1.1 Background to the Project

During discussions with large-scale agricultural producers, it became clear that while the idea of organic systems was well received, there were perceived impediments and gaps in accessible knowledge and management techniques to implementing viable organic production on a large commercial scale. Preliminary research found that the most common perceived impediment among larger conventional producers was the misconception that currently productive land had to be taken out of all production for a period of time. There were also concerns regarding irrigation systems and how to internally fund the transition to organic production. A review of previous research papers on conversion issues highlighted the need to develop systems to enable a viable and standards compliant transition.

While these issues are particularly relevant in the high input and high resource use cotton and horticultural production areas, it is also a factor in other agricultural sectors. These industries are under pressure both economically and environmentally. Falling economic returns and environmental concerns over runoff and resource use are impacting on producer’s returns and strategic planning. By developing systems to enable producers to adopt progressive and programmed organic management practices, this may allow them to maintain economic viability. This in turn will impact positively on regional areas both economically and socially through services and employment. An added environmental benefit will be the reduction in chemical run-off from conventional production systems and a more balanced use of the resource base.

Producers and agronomists argued that while there is a significant amount of technical information and case studies on organic production systems and certification, there is limited practical information regarding planning the conversion process. They argued that before professional producers consider a change in enterprise or diversification they undertake thorough planning and investigation of the impacts of the change. It was the gap between investigating organics and submitting a request for certification that required addressing. Figure 1 illustrates the current general advice given in both industry associations and state agricultural department information sources.

Figure 1. Where the need for conversion planning fits

Read the organic standards

Fill out an Organic Farm Plan

Submit for Audit

Need for information to fill this gap

Producers and advisers suggested they needed more information and a framework to consider critical decisions.

It is encouraging to see RIRDC supporting projects that are addressing this need with the conversion packages being produced significantly contributing to providing information on the technical aspects of the conversion process.
2. Objectives

The objective of the report is to research and develop farm management systems to enable economically viable and standards compliant transition to certified organic production. By developing systems to enable producers to adopt progressive and programmed organic management practices, producers in previously high input farming systems such as irrigated cotton and horticulture may be in a better position to convert to organic production. The research will assist in identifying and overcoming impediments in converting to organic systems. Our strategy to achieve this was to work with producers, advisers and certifiers to develop and test models that may allow the impediments to conversion to be overcome.

The outcomes for the organic industry may be as follows;
1. Identification of impediments to adoption of organic systems.
2. Development of economically viable methodologies to support producers intending to convert to organic systems.
3. Increase in the number and scale of certified organic producers.

The outcomes for the community may be;
1. Diversification options for producers in high use and resource risk areas.
2. Reduction in chemical inputs and runoff with move towards organic production.
3. A more balanced use of the resource base.

A final objective of the project was to summarise the findings in a user-friendly report or management tool. This was completed and drafts are with industry associations for review and publication.

3. Methodology

Desktop research examined existing literature and technical information on various approaches to conversion to certified organic systems. This included certifying organisation’s websites both in Australia and internationally. Travel to the high input agricultural areas of northern New South Wales and southern Queensland allowed researchers to meet with conventional and certified growers to discuss existing information resources as well as understanding what they required from the process. Researchers also met with agronomists during the research to understand their requirements as they have an influence on grower decisions. As part of the travel a number of mini case studies were undertaken in an attempt to understand how a management model could be developed that would allow all types of agricultural enterprises assess the potential changes and challenges of converting to organic production.

Travel took place in mid July 2003 with visits to a number of producers and certifiers. Regions included Toowoomba, Goondiwindi, Moree and Gunnedah. Farming systems included conventional dryland broadacre grain operations, conventional irrigated cotton, grain/horticultural operations and organic irrigated grain properties. Discussions were also held with agronomists who serviced these areas. Agronomists, often overlooked, have significant influence on the corporate and larger scale producers therefore their input and feedback is valuable. The flow chart was developed and reviewed in collaboration with these groups.

The critical factors and subsequent questions for the flow chart and self-test diagnostic were developed as a result of examining Biological Farmers of Australia Co-op (BFA), National Association for Sustainable Agriculture Australia Limited (NASAA) and the United States
Department of Agriculture National Organic Program (USDA NOP) planning documents. The USDA NOP has developed a detailed interview framework that leads to a draft Organic Farm Plan. A combination of the best factors of each contributed to the final structure of both the flow chart and self-test diagnostic. Draft copies of this were reviewed with the target market and feedback collected. The final result is presented in this report.

It became apparent that due to the dynamic nature of organic systems it would be difficult to develop a model that would account for all the linkages and intricacies of individual enterprises and farming systems. Producers themselves highlighted that their own systems were unique and they did not expect ‘one size to fit all’ as such. Existing tools for the conversion process – such as the NASAA and BFA type farm or management plans were shown to producers and feedback sourced on where they perceived strengths and weaknesses. The outcome was that producers needed more general information at the planning stage of the conversion process. It was found that expecting producers to simply:

1. Read and understand organic certification standards
2. Fill out and organic farm plan
3. Implement and establish changes to the production system on farm
4. Apply for certification and complete a questionnaire

was unrealistic, and in some cases discouraged the producer from further investigation. The producers and agronomists researched in this study wanted to investigate changes and impacts before submitting a plan or application. The concept of a self-test diagnostic was raised with producers and others. They suggested such a tool might offer valuable insight into the conversion process.

The methodology of the project evolved to develop the self-test diagnostic tool as well as a simple flow chart that highlighted the issues involved in the conversion process:

1. Case study approach initially - review current and past cropping systems, assess compliance and certification issues. Interview producers and certifiers for selected case studies.
2. Develop a flow chart highlighting conversion processes and decisions.
3. Use concepts from flow chart to build self-test diagnostic tool.
4. Test diagnostic and analyse - liaise with accredited certifiers.
5. Review flowchart and self-test model with certifying organisations to ensure accreditation issues approved.
6. Review management models with producers to test and ensure viable conversion to certified status.
4. Detailed Results

The research identified a key area that needed addressing in order to assist an economically viable conversion process. This was the need to assist producers in understanding the key factors considered important for successfully converting to a certified organic system.

Two initiatives have been developed to address this need. The first initiative is the development of a user-friendly report that includes a simple flow diagram to outline the individual steps and factors involved in the conversion decision-making process. The second is the development of a pilot self-test diagnostic for producers investigating the potential of organic production systems. These are expanded on in the following section. It is intended that these may be built on and integrated over time to develop a partially certifiable self-test diagnostic accessible on line through organic organisations websites with broad applications.

4.1 The need to assist producers in understanding the key areas of conversion

The two key questions that arose from producer and agronomist aspects were

1. How long is it going to take to convert?
2. How much is it going to cost?

Due to the dynamic nature of organic systems there is no single generic answer to these questions. In many cases the second question depends on the answer to the first. Therefore a diagram outlining the timeframe and steps involved in the conversion process was considered the most appropriate way to illustrate the time aspect. From this, producers could then identify the most appropriate pathway for conversion for their specific farming system.

Figure 2 below is important as it sets out the timeframe for the audit process and conversion status, provided the producer converting meets all necessary conditions. What the diagram illustrates is the initial year of pre-conversion regardless of previous production practices.

**Figure 2. The potential conversion timeframe and audit program**

Pre-conversion → In-conversion → Organic

Audit gaps and issues → 2nd Pre-cert Audit → Audit → Audit – organic after this point

This is further outlined in Figure 3 where the potential timeframes for conversion are explained based on verifiable year of last non-approved input. By highlighting this aspect of the conversion process producers are able to start to plan what areas may be able to be converted quicker than others. Either of these diagrams can be used to highlight the conversion process.
The producer can map out their past production practices and potential timeframes for conversion by identifying when they last applied a non approved input in that specific area and then how long it may take to gain organic certification based on that history. While simplistic the table does illustrate the first step the producer should consider in the conversion process.

### Figure 3. Potential timeframes for conversion

<table>
<thead>
<tr>
<th>Year of last application of non approved input</th>
<th>Potential Timeframe for Organic Conversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field 4 or more</td>
<td>Pre-Conversion Period – No produce can be sold as organic. Producer has to commence organic management systems but cannot market produce as organic therefore potentially no premium received.</td>
</tr>
<tr>
<td>A</td>
<td></td>
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<td>B</td>
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<td>E</td>
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<td></td>
</tr>
</tbody>
</table>

- **Pre-Conversion Period** – No produce produced in this period can be sold as organic. Producer has to commence organic management systems but cannot market produce as organic therefore potentially no premium received.
- **In-Conversion Period** – Produce may be sold under certain conditions as ‘in-conversion’ and a premium may be received.
- **Organic Certification** – Three years after verified last non-approved input applied and certification process commenced. Produce marketed as ‘certified organic’ and a premium may be received.

One of the purposes of the chart above is to dispel the notion that potential premiums for organic produce may be realised immediately by producers converting to organic production. This is critical as it allows the producer to visualise that the conversion period may potentially result in a reduced income as production changes impact, yet prices received for produce remain the same.

The producer then needs to understand the decisions and impacts of these that he/she may have to make as a result of converting to organic production. Producers and agronomists suggested a step through process highlighted on a flow chart may be the most appropriate method to highlight these decisions. While the decisions may seem relatively straight forward and a result of common sense, it is important to work through them in a logical and structured manner. This is the real value of the flow chart to the conversion process.

The flow chart decisions and stages are self-explanatory and work to highlight key factors in the conversion process. Step 2. ‘Filling out the Production Matrix’ allows the producer to establish potentials and timeframes for his/her fields to achieve conversion. By breaking the property in to areas, the producer may be able to concentrate on partially converting suitable areas, while still maintaining conventional agriculture production on areas not as appropriate. This may assist with cash flow considerations. The producer does need to be aware that parallel production may pose some challenges and requires significant management.

Input assessment and availability stresses to the producer the importance of investigating sources and costs of approved inputs-factors that are often overlooked. What was interesting is that producers
who had successfully converted to organic production suggested that new crop identification be the end result rather than the starting point for investigations. Market access was identified by all as a critical factor and is linked with the decision for new crop identification.

The intention is that the producer or adviser can work their way through the flow chart addressing the critical decisions required for conversion planning. At its most basic, the flow chart prompts the producers to consider their current situation and the changes that may need to be implemented. As a result of collecting information and working through the flow chart the producer should be able to outline an initial three-year conversion plan and develop a budget to support the plan.

Originally it was thought that a budget template could be developed for producers to assess the impact of changes to their operations. Following discussions with producers it was felt this would not add value, given that each used varying formats and procedures that reduced the usefulness of a general template for comparison.

The advantages of the timeframe diagram and flow chart are

1. Allows producers to quickly consider the critical factors in the conversion process
2. Highlights the potential timeframe and the need to map out the conversion process
3. Prompts the producer to consider their own situation and what changes may need to be made
4. Transferable format that can be adapted to fit into current industry and department guidelines for organic production systems

Figure 4 is the flow chart of decisions in the conversion process.

Producers, agronomists and certifiers reviewed the flow chart and generally agreed that it assisted in setting out the key decisions in a logical and structured format. It was felt that the flow chart would add value to those investigating the conversion process, while understanding of the fact that specific detail is difficult to provide due to the nature of organic systems and individual enterprises history and potential.
Figure 4. Flow chart of decisions involved in the conversion process

1. Review & map previous three years production practices by paddock

2. Fill out production matrix

3. Review ranking of paddocks & timeframes, break into areas

4. Review current constraints on production

5. Soil & Fertility Tests

6. Input assessment & availability

7. Livestock issues and integration

8. Irrigation, buffer zones, biodiversity information

9. New crop identification

10. Market access & sustainability

11. Develop 3 year budgets – production and financial

12. Approved Input Status - see
   - Organic Standards
   - Relevant industry journals
   - Certifier

Approved Input Status:
- Approved type, quantity, effect, source, costs

13. Current Issues:
   - Weeds: variety, controls, impact
   - Pests: variety, controls, impact
   - Diseases: variety, controls, impact
   - Markets, Costs and Returns

14. 1. Residues: identify & map potential problem areas
    2. Current fertility program – source & type, options, quantity

15. Fertiliser – type, quantity, effect, source, costs

16. Weedicide – type, quantity, effect, source, costs

17. Pesticides – type, quantity, effect, source, costs

18. Markets & prices
   - varieties, yields & returns, seasonal opportunities, rotational opportunities, risk, equipment changes, integration issues, GMO

19. Current crops/ regional crops/ markets, returns, storage, delivery, integrity, sustainability, seasonality

20. Assess all above info and ID areas that meet criteria & finalise overall 3-year conversion plan

21. Develop Organic Management Plan and Certification Application

22. Not viable

23. Viable

24. Review crop identification and markets or discontinue
4.2 Development of a self-test diagnostic tool to assist producers considering conversion to certified organic production

While there is significant literature on the concept of organic production, the mechanics of conversion are not adequately addressed. Discussion with producers highlighted that they were open to the idea of a simple diagnostic self-test model that allowed them to consider a farming system’s potential for organic production. While realising that the model could not hope to accurately account for the complex linkages and interrelationships of an organic system it could at least highlight what changes may need to be made from their current system. The results of this self-diagnostic test could then be used by the producer to investigate the cost and benefits of the changes specific to his production system. The results could also be used as a basis for discussing certification with organic bodies.

The diagnostic model was developed along the lines of an interview process. The information collected is analysed and a simple report generated. This report highlights the factors identified in the flow chart outlined above. The self-test process provides a preliminary evaluation and helps determine the potential eligibility of the property for conversion to an organic system. It needs to be noted that the model is provided by way of a guideline only. The reports and results generated do not amount to professional advice or a guarantee that the property will be certified organic in a certain timeframe.

The diagnostic follows the factors outlined in the flow chart diagram of critical factors to consider when investigating the conversion process. An example of how the diagnostic works is illustrated below. This example is from the weed management decisions section of the diagnostic. The investigating producer has ticked what applies to his/her current situation as well as indicating what he/she intends to implement.

Figure 5. Example of section of the pilot self-test diagnostic tool
From this section the database generates a report that highlights the producers current situation and the impacts and potential acceptability of his intended fertility management program. The purpose of this report is threefold.

- Firstly, it highlights to the producer the aspects of his/her plan that may be acceptable under an organic system.
- Secondly, it acts as a preliminary farm plan for certifiers or advisors to examine.
- Thirdly, it becomes a learning tool for the producer as it highlights what is important in an organic system.

Figure 6 highlights an example of the report generated from the above section. Depending on the response of the producer the database highlights what practices the producer may potentially have to change as well as issues they need to consider.

**Figure 6. Example report from pilot self-test diagnostic**

<table>
<thead>
<tr>
<th>Responses to Soil and Crop Fertility Management Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soil Types</strong> – Your soil types are generally loams.</td>
</tr>
<tr>
<td><strong>Soil Deficiencies</strong> – Your soil deficiencies are K, Trace Elements and Organic Matter. This may indicate that you need to pay special attention to your soil fertility needs during the conversion process.</td>
</tr>
<tr>
<td><strong>Current Fertility Program</strong> – Your current fertility program will change by no longer allowing the use of chemical based fertilisers. The source, cost, impact of approved alternative inputs to your fertility program needs to be addressed.</td>
</tr>
<tr>
<td>- Fallows are an important part of an organic system. Management of weed issues during fallow needs consideration.</td>
</tr>
<tr>
<td><strong>Intended Fertility Program</strong> – You intend to use crop rotations, green manure, incorporation of crop residues, fallows and compost as the basis of your fertility program under organic systems. You need to be sure that these practices supply enough nutrients for your system.</td>
</tr>
<tr>
<td><strong>Fertility Monitoring</strong> – By indicating that you use none it is possible that you may need to change the way you monitor fertility levels.</td>
</tr>
<tr>
<td><strong>Fertility Management</strong> – You may need expert external advice on your soil fertility management if you are to convert successfully to organic management.</td>
</tr>
</tbody>
</table>

While the pilot tool responses are general in nature they do contribute to the producers understanding of what may be acceptable and what needs consideration. By identifying the current and intended programs the producer can discuss with advisers the potential of their plans. Highlighting soil types and deficiencies allows the producer and adviser or certifier to discuss issues that may arise as a result of this before conversion is attempted.

By gaining an understanding of how the producer monitors and rates his current fertility management program, the diagnostic can indicate if the producer will need to concentrate more on this area. For example, if the producer indicates that he/she currently does not monitor soil fertility regularly this suggests a change to organic systems (where soil health is critical) will involve a change in the producers management system. Similarly if the producer rates his/her current fertility as only satisfactory of needs improvement then the diagnostic again highlights the fact that they may need to investigate options before attempting conversion. It also gives the certifier or adviser some indication of the current level of management, which is an important factor in the conversion process.
The self-test diagnostic tool developed as part of this project is a pilot example of what could potentially be expanded into the starting point for the conversion and certification process. The tool has been developed using Microsoft Access, a readily available and user-friendly database program. The potential exists to develop the tool so it can be hosted on organic industry or state agricultural department websites as the first point of entry for producers investigating conversion.

The report produced could potentially be developed as a draft organic management plan – saving producer and certifier time and money. Certifiers and advisers could have access to the reports generated and address weaknesses before a full organic plan or conversion is attempted. Similarly with further development an effective budgeting tool could be incorporated where the producer may be able to enter their current costs and returns and compare them with industry accepted yields, costs and returns.

The tool could be burned onto CD and sent as part of membership of organic associations or as part of information packages. The possibilities are exciting and how far it is taken depends on further feedback from users and funding available.
5. Discussion of Results

General acceptance of the project outcomes by those questioned during the course of the project indicates a level of success achieved. Acceptance by industry associations and integration into their information packages should allow the results to be conveyed to target audiences for feedback and review. While frustrated in being limited by time and funds to further develop the obvious possibilities of the self-test diagnostic, the project achieved its objectives in line with the scale and scope of the proposal.

The case studies collected during the initial research were run through the self-test diagnostic to examine how it analysed real life examples. In each case the model provided results and reports that were generally acceptable to producer and certifier, considering that this is only a pilot model. This highlights the pilot models usefulness as an aid for producers investigating the potential of converting to organic production systems.

The flow of information through the model follows the pathway illustrated in Figure 7. In time and with further development it is envisaged that both the flow chart and self-test diagnostic can be integrated as illustrated in Figure 7. It becomes both a learning experience and a tool for assisting planning for the conversion period. It allows for the vagaries and specifics of individual properties, production systems and scale.

Figure 7. Management model potential

The most significant result of the project is the development of a pilot self-test diagnostic that has the potential to be further developed into a fully interactive conversion and certification assessment tool for producers and certifiers. Some industry associations have confirmed they are happy to carry on with testing the pilot diagnostic. Investigations will continue with organic industry bodies to access funding to allow the tool to reach its potential and contribute to the growth in organic systems across Australia.
6. Implications

The results of this research may allow producers considering certified conversion to organic systems to investigate the opportunity in a structured and logical framework ensuring that they do not overlook key criteria and issues. By involving the learning requirements in the process the producer has to determine what may potentially suit his/her requirements rather than a ‘one size fits all’ approach.

By incorporating the ability to collect and present information to certifiers for formal assessment, the model may save time for both producer and certifier adviser. By presenting the information in a structured format both producer and adviser can examine key factors and potential issues in the conversion planning process.

Initially the project intended to demonstrate the findings of the research at a number of workshops with producers. Following discussions with industry associations it was agreed that feedback and dissemination of results could be more efficiently directed through hosting the pilot self-test diagnostic on an industry website and publicising the flow chart. The nature of the outcomes of the project supports this approach therefore at this stage it is not envisaged that workshops will be held.

7. Recommendations

The project has highlighted the usefulness of a self-test diagnostic tool in assisting conventional producers examine the conversion decisions and challenges in converting to a certified organic production system.

It is recommended that;

The pilot self-test diagnostic tool be further developed to improve its usefulness to producers – this may include ranking of potential, integration of a budgeting tool based on information collected, links to approved inputs information sources and other resources.

The pilot tool should be hosted on certifying organisations websites allowing access to all interested producers for review and feedback.

The flow chart of conversion decisions be publicised and made available through certifying organisations websites and publications and incorporated into the various – ‘Steps to Certification’ available in industry and Department publications and websites.
8. Appendices

Appendix A. Example of user-friendly report for inclusion in organic conversion information packages

The Conversion Planning Process – Key Considerations

Introduction

Diversification or change in enterprise of an existing farm business to incorporate alternative enterprises is not a risk less process. Change involves financial outlay, development of new skills, access to new resources and an ability to create or respond to new market opportunities. Previous studies have highlighted that there is no single correct path that will ensure success in undertaking a change to farm operations such as a conversion to organic management systems. However thorough planning, investigation and assessment of diversification options are common elements of successful changes.

The decision to investigate conversion to a certified organic management decision can be assisted by an understanding of the overall framework for conversion and identification of key decisions in the planning process. A number of simple flow charts are illustrated in this information document to assist potential producers to investigate the challenges involved in conversion before they decide to implement the decision. This information document will be most useful at the planning stage before an organic management plan is developed or a submission for certification is completed.

The process highlighted in this document will not provide a ‘silver bullet’ solution or plan to producers investigating conversion rather it will prompt them to consider what changes are required. The producer needs to understand the decisions and impacts of these that he/she may have to make as a result of converting to organic production. While the decisions may seem relatively straight forward and a result of common sense, it is important to work through them in a logical and structured manner. This is the real value of the flow chart to the conversion process.

Where It Fits

The gap between investigating organics and submitting a request for certification required addressing. Figure 8 illustrates the current general advice given in both industry associations and State agricultural department information sources.

Figure 8. Where the need for conversion planning fits

13
**Potential Timeframes for Conversion**

Two key questions generally arise when producers begin to investigate organic systems.

How long is it going to take to convert?
How much is it going to cost?

Due to the dynamic nature of organic systems there is no single generic answer to these questions. In many cases the second question depends on the answer to the first. Therefore a diagram outlining the timeframe and steps involved in the conversion process was considered the most appropriate way to illustrate the time aspect. From this producers can then identify the most appropriate pathway for conversion for their specific farming system.

Figure 9 below is important in that it sets out the timeframe for the audit process and conversion status if the producer converting met all necessary conditions. What the diagram illustrates is the initial year of pre-conversion regardless of previous production practices.

**Figure 9. The potential conversion timeframe**

The producer should now map out their past production practices and potential timeframes for conversion by identifying when they last applied a non approved input in that specific area and then how long it may take to gain organic certification based on that history. While simplistic the table does illustrate the first step the producer should consider in the conversion process. It is important to note that input history must be verifiable ie records must support claims.
Figure 10 Potential Timeframes for Conversion

<table>
<thead>
<tr>
<th>Field</th>
<th>Year of last application of non approved input</th>
<th>Pre-Conversion Period</th>
<th>In-Conversion Period</th>
<th>Organic Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 or more</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Current Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Pre-Conversion Period – No produce produced in this period can be sold as organic. Producer has to commence organic management systems but cannot market produce as organic therefore potentially no premium received.
- In-Conversion Period – Produce may be sold under certain conditions as ‘in-conversion’ and a premium maybe received.
- Organic Certification – Three years after last non-approved input applied and certification process commenced. Produce marketed as ‘certified organic’ and a premium maybe received.

One of the purposes of the chart above is to dispel the notion that potential premiums for organic produce may be picked up by producers converting to organic production. This is critical as it allows the producer to visualise that the conversion period may potentially result in a reduced income as production changes impact in reduced yields, yet prices received for produce remain the same.

A simple production matrix such as the example illustrated in Figure 10 can be used by the producer to map out their previous production practices by area and potentially what they intend to produce during the conversion process.
Figure 11 Example production matrix

<table>
<thead>
<tr>
<th>Field Number: 1</th>
<th>Previous Three Years Production Practices</th>
<th>Rank</th>
<th>Planned Next Three Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rotation</td>
<td>Pasture</td>
<td>Cotton/ Wheat</td>
</tr>
<tr>
<td></td>
<td>Chemicals</td>
<td>Weedicide</td>
<td>Various</td>
</tr>
<tr>
<td></td>
<td>Fertilizer</td>
<td>Nil</td>
<td>N, P, K</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>Cattle</td>
<td>GMO seed</td>
</tr>
<tr>
<td></td>
<td>Yield</td>
<td>Stock Nos</td>
<td>X b/ha</td>
</tr>
</tbody>
</table>

By comparing the actual paddock history with the potential conversion timeframes highlighted in Figure 10 the producer may gain an estimate of the timeframe and status of produce over time. This is of course an indication only and assumes the producer follows all recognized procedures and has records to support the past production practices.

Flow Chart of Decisions Involved in Conversion Process

The flow chart decisions and stages are self-explanatory and work to highlight key factors in the conversion process. Step 2. ‘Fill out Production Matrix’ allows the producer to establish the potential and timeframe for their fields to achieve conversion. By breaking the property into areas the producer may be able to concentrate on partially converting suitable areas while maintaining conventional agriculture production on areas not as appropriate. This may assist with cash flow considerations. However it should be noted that parallel production involves a greater need for management and therefore may not be suitable for some producers.

The intention is that the producer/adviser can work their way through the flow chart addressing the critical decisions required for conversion planning. At its most basic the flow chart prompts the investigator to consider their current situation and the changes that may need to be implemented. From the information collected as a result of working through the flow chart the producer should be able to develop the beginnings of a three-year conversion plan and budget to support the plan.
Figure 12. Flow chart of decisions involved in the conversion process

1. Review & map previous three years production practices by paddock
2. Fill out production matrix
3. Review ranking of paddocks & timeframes, break into areas
4. Review current constraints on production
5. Soil & Fertility Tests
6. Input assessment & availability
7. Livestock issues and integration
8. Irrigation, buffer zones, biodiversity information
9. New crop identification
10. Market access & sustainability
11. Develop 3 year budgets – production and financial
12. Assess all above info and ID areas that meet criteria & finalise overall 3-year conversion plan
13. Develop Organic Management Plan and Certification Application
14. Current Issues:
   - Weeds: variety, controls, impact.
   - Pests: variety, controls, impact.
   - Diseases: variety, controls, impact
   - Markets, Costs and Returns
   - Current crops & regional crops/
   - markets, returns, storage, delivery,
   - integrity, sustainability, seasonality
15. Approved Input Status - see
   - Organic Standards
   - Relevant industry journals
   - Certifier
16. Fertiliser – type, quantity, effect, source, costs
17. Weedicide – type, quantity, effect, source, costs
18. Pesticides – type, quantity, effect, source, costs
19. 1. Residues: identify & map potential problem areas
20. 2. Current fertility program – source & type, options, quantity
21. 1. Residues: identify & map potential problem areas
22. 2. Current fertility program – source & type, options, quantity
23. Not viable
24. Viable
25. Review crop identification and markets or discontinue
26. Market access & sustainability
27. Develop 3 year budgets – production and financial
28. Assess all above info and ID areas that meet criteria & finalise overall 3-year conversion plan
29. Develop Organic Management Plan and Certification Application
30. Not viable
31. Viable
32. Review crop identification and markets or discontinue
Summary

The advantages of the timeframe diagram and flow chart are

- Allows producers to quickly consider the critical factors in the conversion process
- Highlights the potential timeframe and the need to map out the conversion process
- Prompts the producer to consider their own situation and what changes may need to be made

Some producers may be discouraged by the level of detail and process change required when considering a change to certified organic management systems. It is better that producers discover this earlier in the diversification / change process rather than after expending resources on conversion.

The flow chart and timeframe diagrams, while simplistic and in many cases the result of common sense, do allow producers to consider the challenges of conversion in a structured and logical framework.
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