# Do seasonal climate risk management tools address the risk?

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## Abstract

A recent survey of Victorian grain growers was undertaken to gauge the current awareness, understanding and use of SCRM tools. It also asked growers to identify the key seasonal climate risks that impacted on their business. This survey was able to highlight some of the discrepancies between grower needs and what SCRM tools deliver. Over half the growers surveyed were aware of the tools but only 10% of the growers use the tools

## Key Words

Climate risk, risk management, decision making, adoption.

## Introduction

Seasonal climate variability is a reality for Victorian dryland grain growers. This variability impacts significantly on production and profitability (Nicholls 1994). To aid farmers in their decision making and to minimise risks associated with climatic variability numerous risk management tools have been developed. Examples of these tools include climate information, such as three-month seasonal outlooks provided by the Bureau of Meteorology (BOM). As well as atmospheric and oceanic indicators such as the Southern Oscillations Index and short-term weather forecasts. Historical climate records for example deciles and also computer based climate analysis tools such as Rainman, Yield Prophet[?], Whopper Cropper[?], Aussi-Grass and PYCAL, which allow users to assess the effects of climate variability and agricultural management on production.

Currently, the commercial market value of SCRM tools is limited. For SCRM tools to be adopted and valued by the agricultural community, client needs, knowledge and practices must be understood and reflected, and the tools must be carefully designed and communicated to maintain their credibility (Keogh *et al*. 2004). The challenge faced by providers of climate information and developers of SCRM tools is to simplify the complexity and clearly explain the uncertainty associated with climate information. The barrier associated with probabilistic versus deterministic outcomes must also be overcome. (Hayman P, Fawcett R, 2001). This paper reports on a farmer survey conducted by neighbourhood farmer groups throughout Victoria's broadacre cropping regions The objectives of the survey were to gauge the most important climate risks faced by farmers, the awareness and use of SCRM tools, and perceptions and attitude regarding seasonal climate variability.

## Methods

This written survey was developed in consultation with agronomists from the Department of Primary Industries (DPI) Victoria. Questions from a similar survey undertaken by the Department of Agriculture and Food Western Australia were incorporated. Both open and closed questions were posed. Results were tabulated and quantified. 108 Victorian grain growers completed the survey. Participants surveyed were regular attendants of neighbourhood grower groups supported by DPI.

## Results

Table 1. Growers use of computer based decision support tools (Yield Prophet, Whopper Cropper, Rainman, Pycal, Aussie Grass and grower perception of climate information.

| Variable | Percentage of sample (%) (n=108) |
| --- | --- |
| *Computer tools/Risk analysis software* | |
| Heard of computer tools | 58 |
| Use a computer tool eg Rainman, Yield Prophet | 10 |
| *Climate information* | |
| Information is hard to trust | 72 |
| Needs to be better explained | 41 |
| Information is confusing | 37 |
| Is best not talked about unless probabilities are good | 19 |
| Meets my needs | 19 |
| Information tells me nothing I don't already know | 17 |

**Summary of results: climate risk management survey 2006:**

- The most important climate risks were lack of rain, timing of growing season rainfall, poor spring finish (rain or temperature?) and frost.
- Growers' knowledge and understanding of climate and weather information was better for those who had heard of a climate tool.
- The most important issues when conducting paddock plans were economic return, paddock rotation, input costs and minimising risk Target yield was more important for growers who had heard of climate tools
- 58 % of farmers/grain growers had heard of a climate based computer tool, but only 17% had used a tool.
- Short-term weather forecasts were rated with greater emphasis than long-range forecasts or computer based climate tools. Historical climate information (i.e. deciles, was rated higher by growers who had heard of climate tools.
- Long-term climate trends and using climate information to minimise risk were the topics that growers would like to learn more about.
- The preferred means of receiving climate information was farmer groups, Internet, radio, and television.

**Conclusion**

More than half of the survey respondents were aware of seasonal climate risk tools but few growers actually used the tools themselves. Growers indicated that current SCRM information is hard to trust due to the uncertainty and probabilistic nature of the information. The uncertainty and probabilistic nature of seasonal climate risk information needs to be better communicated in order for growers to understand and gain confidence in the tool's output. SCRM tools must clearly address the risks that growers face if they are to be adopted and used to assist with on farm decision-making.

**References**


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