

Specifying the farming styles in viticulture

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Abstract. Fourteen styles of viticulture are defined: Astute Business Grower; Experimentalist Grower; Industry-Endorsed Early Adopter; Professional Scientific Manager; Experienced Manager; Labour-Efficient Grower; Low-Input Sustainable Agriculture Grower; Traditional Grower; Ethnic Grower; Conventional Grower; Retiree Grower; Hobby Grower; Sea-Change Grower; and Marginal Grower. The methodology to identify these farming styles included 6 focus groups in Mildura, Victoria, a face-to-face interview with 142 grape-growers in the Sunraysia region of Victoria, and qualitative interviewing with industry personnel and extension staff. Problems of social desirability response bias, the lack of self-identification by growers with styles, and literacy and other methodological issues meant that qualitative, participatory (emic) methods for identifying styles were not reliable. Following considerable immersion in the field, the researchers identified, on the basis of expert judgment (etic classification), the 14 farming styles in viticulture which they regard as a typology of ideal types. Benefits of the identification of farming styles in viticulture in terms of extension are discussed.

Additional keywords: extension, grape-growing, rural sociology, Sunraysia, targeting, typology.

Introduction

Traditional models and approaches to targeting farmers with extension information have not adequately taken into consideration the different needs, management approaches and worldviews of farmers (Black 2000; van der Fliert 2003; Guerin and Guerin 1994; Murray 2000; Vanclay 2004; Vanclay and Lawrence 1994, 1995). 'Styles of farming' is an approach from the field of rural sociology that has been seen as having an important and relevant application in extension (Vanclay *et al.* 1998). The process of identification of styles allows for the elaboration of a rich picture of the diversity that exists among groups of farmers. Farmers have a general awareness of the diversity of farmers, and this is evident by the language they use to describe different types of farmers (Howden *et al.* 1998).

Diversity in agriculture has long been recognised by rural sociologists and extensionists. However, extension has failed to appreciate the social basis of diversity, and has tended to see difference only in terms of farm characteristics (e.g. size, crop) or access to financial resources. Awareness of an attitude, 'willingness to adopt', was propagated through extension courses that were based on the classic textbook by Rogers (1962 and later editions), 'Diffusion of innovations'. We suggest that diversity is much more multidimensional and is best reflected in the concept of styles of farming or farming styles (van der Ploeg 1993; Vanclay *et al.* 1998).

Styles of farming is a theoretical approach for understanding diversity in farming communities. Research

using this approach has been undertaken in Australia (Glyde and Vanclay 1996; Howden 2001; Howden and Vanclay 2000; Howden *et al.* 1998; Mesiti and Vanclay 1996, 1997; Thomson 2001, 2002; Vanclay *et al.* 1998) and in Europe (Commandeur 2003; Leeuwis 1993; Noe and Alroe 2003; van der Ploeg 2000, 2003; van der Ploeg and Long 1994). The essential feature of the farming styles concept is that among a group of farmers who are geographically and commodity located, there is an ordered and meaningful clustering of the different notions about the most appropriate way to farm (Vanclay *et al.* 1998). 'Farming styles refers to a cultural repertoire, a composite of normative and strategic ideas about how farming should be done. ... Therefore a style of farming is a concrete form of praxis, a particular unity of thinking and doing, of theory and practice' (van der Ploeg 1993, p. 241).

Categorising farmers using a farming styles approach is different to using labels that are derived from the traditional extension discourse such as the Rogers (1962) adoption categories of innovator, early adopter, early majority, late majority, and laggard or traditional. The primary difference is that instead of being based on an ordering in relation to the act of adoption, the farming styles approach is a typology of the various strategies of farming where each style combines situational, locational, agronomic, environmental and personal factors.

This paper identifies the farming styles of grape-growers in the Sunraysia region of Victoria. Identifying the different styles of grape-growing potentially assists in the targeting of

extension information to cater for the varying needs of all grape-growers. Although the data relate to the Sunraysia region, it is likely to be applicable to viticulture in Australia generally. The understanding of farming styles that has developed through this work is likely to assist in understanding diversity in all agricultural industries.

Background and methodology

The Cooperative Research Centre for Viticulture (CRCV), which funded this research, was interested in becoming aware of the diversity of grape-growers in order to develop an understanding of the barriers to adoption of new viticultural practices and to assist in the better targeting of their extension activities. Rural sociologists were engaged to study grape-growers with the aim of identifying the different styles that existed in viticulture and the characteristics of each style. There were 2 phases to the research. Phase 1 comprised 6 focus groups conducted in the Sunraysia district (centred on Mildura, Vic.) in 1996. Phase 2 comprised an interviewer-completed, in-person survey of 142 Sunraysia grape-growers undertaken in 1996–97.

The focus group technique we used involved a structured process that required participants to write responses on index cards, which were then themed on a board. This method ensured participation by all present, and reduced the influence of social dynamics. Open discussion was facilitated during which time participants provided a more detailed commentary of the statements they made on their cards. This section of the focus groups was audiotaped for later reference. Further detail is provided by Mesiti and Vanclay (1996, 1997).

The starting questions posed in the focus groups were as follows:

- (i) Describe yourself as a grape-grower (using 1 card).
- (ii) Describe how you differ from other growers in this area (using 1 card).
- (iii) Describe all the different types of growers that you know of in this area (using 1 card per style).

The moderated outcome of the focus groups was the identification of 6 styles: Traditional, Conventional, Labour-Efficient, Innovative, Collins Street and Lifestyle growers. A full description of each of these styles was developed by the focus group participants (Mesiti and Vanclay 1997). The descriptions developed in the focus groups were used as the basis of a 'portrait' for each style. These portraits were used in the questionnaire phase of the research. Portraits are descriptions of the styles written in the first person.

The objective of the questionnaire phase was to validate empirically and statistically the existence of the styles identified in the focus groups. Between June 1996 and January 1997, 142 grape-growers in the Sunraysia were interviewed. There were 3 interviewers altogether, with just over half of all interviews being undertaken by the primary author of this paper. The questionnaire included the portraits and an attitude inventory of statements associated with the descriptions of the styles. Growers were asked to rate each attitude item on a 5-point Likert scale (strongly agree to strongly disagree). Respondents were also asked to identify how much they were like each portrait, and to select the portrait that was most like them. This last question was particularly important because it was the basis of the variable central to the research, the grower's self-identified farming style. In addition, the questionnaire collected background information such as vineyard data and management practices, recent changes, knowledge about scientific pest and disease management, information sources and demographic data. Interviews took about an hour each. Questionnaire data were statistically analysed using SPSS (SPSS Inc., Chicago, IL, USA).

Non-validation of the focus group typology

Analysis of the questionnaire data failed to validate conclusively the adequacy of the typology of 6 styles as

identified in the focus groups: Traditional, Conventional, Labour-Efficient, Innovative, Collins Street and Lifestyle growers. To arrive at this conclusion, we considered several issues and used several statistical tests. Firstly, we considered what growers thought of the set of styles as a whole. A high percentage of growers (87%) considered that the descriptions were 'good' or 'very good', however, 28% of growers suggested that there were other types of growers not included in the set of styles mentioned by the focus groups. Secondly, we considered the ease by which respondents answered the questions about which style was most like them and how alike they were to each style. The interviewers reported that this part of the questionnaire was relatively easily completed. Thirdly, we considered the proportion of growers (78%) who selected only 1 style as being most like them. Thus, 22% of growers considered that 2 or more styles were a lot like them. Although there was some overlap between some of the styles in the way they were conceived in the focus groups — and, therefore, it was not inappropriate that some growers might find it hard to choose between some styles — for the typology to be valid, the combination of styles selected would need to be meaningful. This was our final consideration. Looking at the combination of styles selected when more than one was identified as being a lot like them revealed a degree of incompatibility between the selected styles. Thus, while overall there was ease of self-identification, the process was not fully convincing.

Our view that the styles were not validated was further established by 3 statistical procedures: hypothesis testing, confirmatory factor analysis and discriminant analysis. The hypothesis-testing involved the identification and assessment of various *a priori* propositions developed from our understanding of the styles based on the information provided in the focus groups. The propositions involved the expectation of predicted patterns of difference between the styles. If the typology was to be validated, a large majority of the propositions (hypotheses) would need to be substantiated by appropriate statistical tests (e.g. ANOVA) on the empirical data from the questionnaire phase of the research. The hypotheses related to specified differences between the styles for the following issues: adoption of new technologies; the types of viticultural practices used (e.g. irrigation, trellis type, pruning and harvesting methods, rootstock, grape variety grown); motivations and aspirations; demographic factors; and vineyard characteristics such as vineyard size. Although some of the hypotheses were supported by the data, many of them were not supported and a conclusive statement validating the styles could not be made.

A confirmatory factor analysis (principal components analysis) was undertaken using the attitude inventory. It was thought that if the factor analysis would result in factors (scales) that resembled the original styles, this would constitute validation of the typology. The factor analysis

failed to accomplish this because most of the factors that emerged did not equate with the styles nominated by the focus groups. Our further reflection of this is that this was not a valid test, as the factor analysis identified dimensions (or individual components of styles) rather than styles in their full multidimensional state. Styles are complex, multifaceted entities, whereas dimensions are specific issues that differentiate farmers (Glyde and Vanclay 1996).

Finally, we attempted to create a classification procedure to predict style membership based on a range of viticultural and demographic data using discriminant analysis (canonical correlation). If the typology was to be validated, the discriminant analysis procedure should be robust, contain an acceptable (i.e. relatively small) number of variables that would accurately predict the style membership of the majority of growers. With our data, this did not happen. Only around half of the growers were correctly classified and other statistical indicators of the robustness of the discriminant analysis were not good.

Through these 3 statistical procedures and by reflecting on the grower experience of answering the questions, we were unable to validate the typology of styles identified by the focus groups as tested using the empirical data and grower self-selected farming style. There are 2 conceivable explanations for this. Firstly, there is potential error in the self-selection of style by growers for a range of social research reasons including social desirability and literacy issues associated with the portrait technique. Secondly, it is possible that the set of styles identified by the focus groups did not cover the full range of styles that actually existed. If there were more styles in actuality, and if more were included in the statistical analysis, then the various statistical procedures potentially would have revealed a better fit. This is provided that the self-selection of style was reliable and the sample size was sufficiently large. Both explanations (methodological issues and the adequacy of styles) are highly applicable.

The portraits contain many concepts, and some refer to social values that are ubiquitous in farming. It is, therefore, not surprising, especially given the complexity of the portrait selection process, that some growers found it difficult to identify their 'true' style. The portraits are difficult to fully comprehend, especially for those growers with low literacy or cognitive ability. The social desirability of certain styles also adds to measurement error in the portrait method.

The second argument, that the typology of styles identified by the focus groups inadequately represent the actual styles that exist, is equally feasible. The focus groups worked well and growers did relate to the concept of farming styles in general, but there was not strong evidence that growers were consciously aware of their own style, or had an explicit awareness of the range of styles that existed. The focus groups took a while to 'warm-up', but after some prompting, the participants seemed to comprehend what was

intended. In hindsight, we believe that the hegemonic influence of extension language, especially of the adopter categories by Rogers (1962), has pervaded not only the field of extension in Australia, but also the farming community as a whole. Rogers's terms as used by extensionists are therefore part of farmers' cultural understanding and common language. Howden and Vanclay (2000) argue that the implicit rather than explicit nature of farming styles together with the focus group method encouraged the articulation of mythologised, heuristic styles and what they describe as parables, rather than empirical, tangible styles. Our experience was the same. The focus groups did not produce a reliable or valid set of the farming styles that exist in viticulture in Mildura. Instead, they produced a set of relatively unsophisticated labels and descriptions that combined multiple components creating considerable confusion and which resulted in the failure of the statistical analysis to validate the typology.

A researcher-defined typology of farming styles in viticulture

The assessment that the typology of styles suggested by the focus groups could not be validated does not mean that farming styles in general do not exist. Rather, it indicates that the grape-growers we interviewed did not have an explicit individual awareness of the range of styles or of themselves as adhering to a specific style. This means that styles cannot be identified through a participatory process. Having undertaken considerable interviewing (both qualitative and quantitative), and having had considerable interaction with the Mildura community, as well as through a detailed statistical analysis of the questionnaire data, we now have considerable familiarity with the grape-growing community in the Sunraysia. On the basis of this accumulated experience and knowledge of grape-growers in the Sunraysia, we have determined that the styles outlined below exist. This is our professional judgment based on our ethnographic (etic) assessment.

- (1) Astute Business Grower.
- (2) Experimentalist Grower.
- (3) Industry-Endorsed Early Adopter.
- (4) Professional Scientific Manager.
- (5) Experienced Manager.
- (6) Labour-Efficient Grower.
- (7) Low-Input Sustainable Agriculture Grower.
- (8) Traditional Grower.
- (9) Ethnic Grower.
- (10) Conventional Grower.
- (11) Retiree Grower.
- (12) Hobby Grower.
- (13) Sea-Change Grower.
- (14) Marginal Grower.

1. Astute Business Grower

Solid financial management is the central motivation of the Astute Business Grower. Vineyard management decisions are subject to an economic assessment with only profitable management techniques being adopted. These growers are business orientated, and owning a vineyard provides a strategy for diversifying their finances. The vineyard is potentially one of many investments, and expenditure on the vineyard is subject to a trade-off analysis in relation to other investments. They like grape-growing but could equally be doing something else. They have many business connections both in the viticulture world and in the broader financial investment world. They are active information seekers and make decisions based on a financial assessment of many options. They utilise the latest technology and management techniques where these have been demonstrated to be profitable. Because they have a business culture and use a business language, they are able to access finance easily. They are most likely to be growing winegrapes, but are likely to keep their options open. They are likely to be growing a range of different grape varieties and are likely to replace varieties that they thought were no longer going to be profitable.

2. Experimentalist Grower

The core concept of the Experimentalist style is the need to play around with ideas and practices. Although they are information seekers, they adapt and perfect this information to their own situation. Not content with a static operating environment, they continually experiment by changing vineyard practices. Their knowledge tends to be based on practical experience, rather than scientific knowledge, although they are not necessarily adverse to scientific knowledge. They have a high level of specific knowledge about their own vineyard.

3. Industry-Endorsed Early Adopter

The Industry-Endorsed Early Adopter is the 'teacher's pet'. This is the style that is strategically aligned with extension agencies. From the perspective of the extension agencies, they are the alleged 'leading' growers, thirsty for information and willing to immediately adopt practices without substantial modification. They are often the growers on whose vineyards the field trials and/or demonstrations are conducted. The extension agencies often regard these growers as 'innovators', but in reality they are not innovating, merely (very) early adopters of the practices that are legitimated by the extension agencies. These growers are typified by a high level of information access, strong support for the extension agencies, high level of scientific knowledge, and a high level of use of the currently advocated best management practices. They are likely to be heavily involved with the industry at various levels, such as being on industry committees.

4. Professional Scientific Manager

The Professional Scientific Manager manages the vineyard on behalf of others. Their management approach is one of professionalism with a scientific basis. They are likely to have a university degree, solid knowledge of scientific viticulture, and they approach vineyard management in a professional way. They are likely to be adopters of new management practices. They will manage larger vineyards and will probably be growing winegrapes. They have a well established network in the industry and are in tune with current trends and new knowledge. If they were to be a vineyard owner in their own right, they would most likely be an Astute Business Grower or an Industry-Endorsed Early Adopter.

5. Experienced Manager

The Experienced Manager manages the vineyard on behalf of others. In contrast to the Professional Scientific Manager, their management approach is one of practical experience in the industry. While they may have a university degree, it is their many years of industry experience and personal knowledge that is their strong point. Scientific knowledge of viticulture is less important than their practical experience. They are likely to utilise some new management practices, but not to the same level as the Industry-Endorsed Early Adopters. Rather, their values are more akin to the Conventional Grower style. Like Professional Scientific Managers, they are responsible for managing larger vineyards. They utilise their well developed networks in the industry and community, and access information from a wide variety of sources.

6. Labour-Efficient Grower

The Labour-Efficient Grower employs a strategy of mechanisation because of their adversity to utilising labour inputs on their vineyard. They regard paid labour as too expensive and too unreliable, and dislike the administration associated with paid labour. Therefore, they prefer to use mechanical means to do the hard work on the vineyard. They utilise the latest technology and management techniques. Although not necessarily the exclusive reason, some Labour-Efficient Growers may have off-farm work, which means that they have competing demands on their time. Because they lack the time to get everything done on the vineyard, time efficiency is a major motivation for this grower. Although not a defining characteristic, they are likely to have a high debt because of investment in equipment and technology, and perhaps the vineyard itself.

7. Low-Input Sustainable Agriculture Grower

The Low-Input Grower's viticultural management strategy is directed by an aspiration to reduce chemical inputs and by a commitment to utilise sustainable practices. Therefore, they use a range of low-input practices in all dimensions of viticulture. This translates into, for example, using the most

efficient methods of irrigation to reduce water use. They are highly aware of the technical aspects of pest and disease management, and of scientific information related to grape production. They are active information seekers. Their vineyard is likely to be relatively small in size and they are happy to accept a high level of labour input. Their primary motivation and worldview relates to an holistic approach to grape-growing, which integrates all levels of the production process. There are several variants of the Low-Input Style, including organic growers, biodynamic growers, as well as various others that don't have a specific philosophy. Low-input growers share some things in common with Conventional Growers. However, while there may be similarities in practices, the motivation or intention of the Low-Input Growers (who actively choose low-input methods) is likely to be quite different to Conventional Growers who may be limited in their ability to implement new, high-input, practices.

8. Traditional Grower

The Traditional Grower is a style defined by the use of traditional grape-growing practices, such as flood irrigation, single trellising, and conventional grape varieties primarily sultana grapes. For them, grape-growing (farming) is culture, a way of life with a value system that expresses certain social values about farming. It is a style associated with rural sociological concepts such as stewardship and agrarianism (Flinn and Johnson 1974; Vanclay and Lawrence 1995) and Yeomanry (Salamon 1992). In rural sociology, 'Yeoman' refers to traditional farmers who view farming as a way of life. Originally an old English term meaning a land-owning man of lower class who farms his own land, it also implies a range of virtuous characteristics: sturdy, dependable, trustworthy, and 'salt of the earth'. Most traditional growers have been farming for a long time, and were likely born into farming, and now own and manage their own vineyard. They can be young or old, but they view farming as the most important way of life and defend notions of traditionalism and farming as a virtue. Their notion of quality is one based on the best way to grow grapes according to an historical perspective of what is best and what is good. They rely on their own experience, but share ideas with like-minded growers. They are not likely to change their ways and will strongly defend their commitment to traditional ways of managing the vineyard. They own their own vineyard, owe the bank very little if anything, and are loath to go into debt.

9. Ethnic Grower

The Ethnic Grower has a non-Australian cultural background. While they may have been born overseas, they could be born in Australia but participate in, and have a strong attachment to, an ethnic grouping. Their approach to grape-growing is similar to the Traditional Grower with the

activities of running a vineyard being partly influenced by rituals of farming from the overseas country they associate with. Restricted language skills may limit their access to information and they may be illiterate in their own language as well as in English. They lack access to agri-scientific information and rely on a process of information exchange that is based on sharing with fellow members of this style and others. Their own knowledge and experience are central to their decision-making. They are generally older than other growers. They owe nothing or very little to the bank, and own and manage their own vineyard. It must be appreciated that not all grape-growers with an ethnic background are necessarily regarded as being members of this style, nor may they self-identify with this style. The essence of this style is ethnicity plus traditional practice. Growers with an ethnic background who do not practise traditional-type viticulture are regarded (and regard themselves) as belonging to one of the other styles.

10. Conventional Grower

The Conventional Grower is very much the 'middle-of-the-road' grower who is in between Traditional and Early Adopters and technically, in Rogers's (1962) terms, represents the 'early-majority'. They do not take high risks and have an aversion to debt. They are somewhat willing to accept new information and are aware of what is being promoted, but they may not necessarily feel the need to adopt what is being promoted, either because they lack the resources, or because they are not fully convinced of the need for change. Conventional Growers are middle-aged and have been involved in grape-growing for some time.

11. Retiree Grower

The Retiree Grower is an older person, usually part of a couple, who for most of their lives has worked in a non-farm environment and has retired from active full time employment. Their primary motivation in purchasing a (small) vineyard is as a retirement lifestyle. Therefore, they don't need the vineyard to make a living, as they live on their savings. They owe the bank nothing (or very little).

12. Hobby Grower

The Hobby Grower's motivation for owning a vineyard is a lifestyle preference. They own a small vineyard and typically have a spouse and children. In contrast to the Retiree Grower, they remain in active employment away from the vineyard and therefore they also don't rely on the vineyard for their income. But, they have limited time to work on the vineyard as their main employment takes most of their time. For this grower, making money from the vineyard is not necessarily a high priority.

13. Sea-Change Grower

The defining feature of a Sea-Change Grower is a person, couple or family unit who have made a fundamental lifestyle

change in order to enter viticulture. Unlike the other 'lifestyle' styles (Retiree and Hobby), Sea-Change Growers intend on making an income from the vineyard. However, the 'sea-change' period is a transitional phase lasting several years until such time as members of this style have transformed into one of the other styles of viticulture, or have left the industry after finding that it did not actually suit them after all. This is a conceptually unambiguous style, and therefore it has few defining characteristics or associated practices other than the characteristics of being relatively new to viticulture and a motivation that grape-growing and rural living is a better way of life than whatever was being done previously. Because they are new to viticulture, they lack understanding and knowledge about vineyard practices. They see viticulture as an investment in their personal wellbeing, but have a medium-term vision that they can (might) make an income from the vineyard.

14. Marginal Grower

There is no single 'style' as such that is marginal. However, through various ways, several grape-growers become marginal. This can occur, for example, by a Business Astute Grower falling victim to hard times through taking excessive risks. Alternatively, it could be the result of Conventional, Traditional, or Ethnic Growers failing to keep a sufficient cash flow. The Marginal Style is an ambiguous temporary style until they are able to improve their situation and return to their former (or another) style, or until they leave grape-growing altogether.

Validation of the researcher-defined styles

Decision rules (algorithms) were developed for each of the 14 researcher-defined styles (see Appendix 1). They enabled the 142 growers who were interviewed to be classified into the new styles (see Table 1). The most common style was Conventional Grower, representing some 32 percent of all grape-growers. The second most prevalent style in the Sunraysia region was Ethnic Grower, comprising 24 percent of all grape-growers. Because the sample size (142) is relatively small, especially for a variable which now has 14 categories, not too much attention should be placed on the exact percentages of the smaller categories. The nature of the sampling process meant that the manager styles were under-represented in the dataset. It is also the case that the percentage of growers who were organic or who practised other forms of low-input sustainable agriculture (LISA) is understated. Although none of the growers surveyed were assessed as being in this category, preliminary information gathered during the focus groups suggested that there were at least some LISA growers in the district, and in fact, the focus groups contained 1 organic grower. Nevertheless, participants in the focus groups indicated that there were only a very small number of LISA growers — in their view not enough to comprise a style — and that to ask questions

of this type would potentially alienate other growers from the research. Therefore, we elected not to ask specific questions about this. Thus, with the current data we do not have a means of identifying LISA growers, even though this would be very easy were the right questions to be asked.

The new variable representing the researcher-defined typology of 14 farming styles was subject to a range of 'hypothesis-testing' similar to what was done with the growers' self-selected style (the typology of 6 styles developed in the focus groups). Although the small sample size prohibited strict statistical testing, tentative assessment of a range of variables including vineyard size, age of grower, grape variety grown, type of irrigation, extent of change made in the last 5 years, trellis system, and attitude to risk-taking, all confirmed that the researcher-defined styles were better than the typology of styles articulated in the focus groups.

We present this researcher-defined typology as a statement of the likely styles of farming in viticulture that were present in the Sunraysia region at the time we collected our data, 1996–97. The extent to which these styles were present in other viticultural regions of Australia is unknown, but we suspect that most of them were likely to be present across Australia as they mostly related to aspects of viticultural management rather than being specifically tied to place. The typology is reasonably likely to be generally applicable today. Nevertheless, there is change in the industry, and it is possible that over time new styles will emerge, especially in response to key management issues. Because most of Sunraysia growers grow grapes for the dried fruit industry or for sale to large winemakers, there were no small-to-medium scale grape-growers or winemakers. In other viticultural regions of Australia, such as Tasmania, where there are grape-growers and winemakers there may be some styles that are specifically associated with some aspect of winemaking.

Table 1. Researcher-defined farming styles

Farming style	Frequency
Astute Business Grower	11
Experimentalist Grower	7
Industry-Endorsed Early Adopter	5
Professional Scientific Manager	1
Experienced Manager	0
Labour-Efficient Grower	8
Low-Input Sustainable Agriculture Grower	0
Traditional Grower	12
Ethnic Grower	34
Conventional Grower	46
Retiree Grower	1
Hobby Grower	8
Sea-Change Grower	7
Marginal Grower	2
Total	142

Using farming styles for targeting extension

The primary reason to know about farming styles is to understand the diversity of growers. This information could be useful in the targeting of extension, such as in devising appropriate communication strategies for the different styles. These communication strategies could take into account the sources of information utilised by each style, the level at which the information should be pitched, and different aspects of the worldviews inherent in each style. Knowledge of the different farming styles could also influence experimental research, with the different management issues of each style being addressed.

Targeting the different styles could occur in a general sense, such as in the production of a range of different advertising messages. Where individual growers have been identified as belonging to a certain style (i.e. classified), targeting could be individually specific. By understanding an individual farmer's style, an extension agent could put together a package that most aligned with the needs and approach of that particular farmer (Risdon 1992).

Targeting and market segmentation are core concepts of market research. Just like the farming styles approach, market segmentation entails the identification of the needs and concerns of different groupings in the consumer population. Market research attempts to determine consumption and purchasing preferences based on understanding personal characteristics, such as spending power, geographical location and the values and attitudes held by different groups (Gunter 1992; Kotler 2005).

There has been inadequate attention given to market segmentation and targeting in extension (Risdon 1992). The traditional typology of adoption devised by Rogers (1962) — innovators, early adopters, early majority, late majority and laggards — had detailed descriptions that were meant to assist in creating marketing plans to target specific groups or audiences (Drost *et al.* 1998; Youngs *et al.* 1992). A farming styles approach is preferable to Rogers's adoption categories because it takes more factors into account — it embodies the richness and diversity of the different styles in context, rather than relying on generic labels.

Conclusion

Although as social scientists we are committed to qualitative, participatory research practice, this paper demonstrates that the lack of explicit styles of farming in Australian viticulture, and the lack of self-awareness by growers of their particular style, means that the qualitative methods we originally used (i.e. focus groups) to attempt to identify the styles did not result in a set of styles that withstood rigorous attempts at validation. In that sense, we concur with Howden and Vanclay (2000) that the 'styles' in the focus group typology are parables and that the focus group methodology is potentially misleading. After considerable immersion in the field and detailed analysis and reflection on our data, we

have therefore resorted to constructing a researcher-defined (etic) typology of styles. Our researcher-defined typology of 14 styles was more consistent with the data collected in a lengthy questionnaire dealing with viticultural management than was the typology of 6 styles identified in focus groups.

It should be noted that the researcher-defined typology was still constructed using a qualitative research method. It was constructed on the basis of detailed ethnographic analysis, albeit an 'etic' (researcher-defined) rather than 'emic' (participant-defined) construction. The quantitative questionnaire data was not the basis of the construction of the typology, even though that data was used to argue empirically that the researcher-defined typology was a better representation of the variance than the focus group typology.

The 14 researcher-defined styles described in this paper explain the diversity of grape-growers not only in the Sunraysia District, where the data was collected, but they also provide a description of diversity in viticulture generally. Historically, extension activities have been aimed at the more innovative or progressive growers and farmers partly on the presumption that a diffusion or trickle-down of information would occur. These progressive growers were considered to be more readily able to accept new technology and were regarded to be the most closely aligned to extension agencies. However, this traditional top-down paradigm marginalises the other styles which were not seen to be professional or scientific, and, in some cases, were not even regarded to be 'real' growers (e.g. part time or hobby growers) deserving of attention. 'Traditional' growers have also long been seen as 'laggards', and were often seen as the growers that need to be structurally-adjusted out of the industry. Traditional growers' information needs were ignored. An awareness of the full range of potential viticultural styles, and of the characteristics of each style, would allow extension staff to specifically target information to each style. Such targeting should include consideration of the appropriate method of communication, pitch of the message, as well as consideration of which problems or issues should be addressed.

Application of the farming styles approach has several limitations. With the focus group method of identifying styles having been discredited, the only method of identifying farming styles is an ethnographic process of immersion in the field. This is laborious and time consuming. Even then, the extent to which it is free of researcher bias is open to question. Apart from the elaboration of the typology, classification of individual farmers into their respective styles also has a degree of error. Despite these problems, awareness of styles of farming as a general concept will increase extension sensitivity to the diversity of farmers. Utilisation of an explicit farming styles approach, even if not completely accurate, may well lead to improved targeting and may well be more useful than other classification systems that have been used in extension.

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Appendix 1. Decision rules

Astute Business Grower

- High score on a financial investment motivation scale.
- High score on economic assessment of innovations scale.
- High score on profit maximisation scale.
- High score on scale relating to 'farming as a business', or 'could be doing other things' scale
- High level of utilisation of latest technology and management techniques.
- Ease of access to finance, that is a willingness to borrow and the ability to borrow in terms of being an attractive proposition to lending institutions.
- Own and operate vineyard.

Experimentalist

- High need to experiment.
- Considerable in-depth knowledge about their own vineyard.
- Moderate to high score on information seeking.
- High score on the importance of practical experience.
- Open to new ideas and alternatives.
- High level of utilisation of latest technology and management techniques.

Industry-Endorsed Early Adopter

- Strong linkages with extension.
- Willingness and openness to adopt.
- Self-identification as an innovator.
- High level of utilisation of latest technology and management techniques.
- Seen as a leading grower.
- High score on information seeking.
- High score on scientific knowledge.

Professional Scientific Manager

- Manager not an owner of the vineyard.
- High score on professional orientation scale.
- Has a university qualification.
- High score on scientific knowledge.
- High level of utilisation of latest technology and management techniques.
- High score on information seeking.
- High score on industry involvement.
- High score on rapid adoption of ideas and technology.

Experienced Manager

- Manager not an owner of the vineyard.
- Has considerable practical experience in viticulture.
- Favours practical experience over scientific knowledge.
- Moderate score on scientific knowledge.
- Moderate level of utilisation of latest technology and management techniques.
- Moderate score on information seeking.
- High score on industry and community involvement.
- Moderate score on rapid adoption of ideas and technology.

Labour-Efficient Grower

- High level of utilisation of mechanical technology.
- High score on not employing paid labour.

Low-Input Grower

- High motivation to reduce need for inputs.
- High use of sustainable practices in production.

Traditional Grower

- See farming as a way of life.
- See farming as a virtue.
- High score on relying on own knowledge.
- Born in Australia and have a non-ethnic background.
- Sources information from other growers and friends.
- Not likely to make high risk decisions on the vineyard.
- Use traditional practices.
- High score on talking to other growers.

Ethnic Grower

- Have an ethnic background.
- Utilise traditional farming methods.

Conventional Grower

- Utilise conventional practices, i.e. not out-dated traditional methods, but not the most recent innovations.
- Making a profit or breaking even.
- Less likely to make high risk decisions.

Retiree Grower

- Has retired from other (non-viticulture) full time employment.
- Short period of time involved in grape-growing.
- High score on farming as a lifestyle.
- Has off-farm income at least in the form of savings.
- Is older than other growers.
- High score on the bank owning very little.

Hobby Grower

- Has off-farm income.
- High score on farming as a lifestyle.
- Relatively small vineyard.
- Is under retirement age.

Sea Change Grower

- Has recently made a major change in lifestyle.
- Has been involved with grape-growing for a short period of time.
- High score on farming as a lifestyle.
- Is less than retirement age.
- Eventually needs to see a return on investment and income from vineyard.

Marginal Grower

- Has severe financial difficulties and high debt.
 - Has been working as a grape-grower for several years.
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