

# Styles of Farming and Farming Subcultures: Appropriate concepts for Australian rural sociology?

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## Introduction

Diversity in agriculture is one of the axioms of rural sociology – perhaps the most important one – but remains one which has not been fully considered. The physical nature of diversity is easily accepted – some farmers grow wheat, some farmers grow grapes, etc. For social scientists, structural diversity is also understood – some farmers are rich, some poor, some have large farms, some small, some farmers have high debt load (low equity), others have low debt (high equity). Extension Science in some ways invoked diversity on the basis of innovativeness – but this was not a true form of diversity because extension, at least in traditional models, presumed that innovations were universally applicable and ultimately would be universally adopted (see Vanclay & Lawrence, 1994, 1995a, 1995b). However, the sociocultural basis of diversity in farming has been inadequately examined, and has often been neglected in analyses of farming, although it is an area of growing concern. Extension, in particular, has failed to appreciate the significance of the existence of sociocultural diversity in developing its extension programs and in the targeting of its messages.

Flying in the face of globalisation theories (see Buttel, 1994), there are two sociocultural conceptualisations of farming: the ‘styles of farming’ approach of Jan Douwe van der Ploeg (1990,

1992, 1993, 1994a, 1994b, 1995a, 1995b, 1997), and the farming subcultures approach of Frank Vanclay (1992, 1994a, 1995a, 1997; Vanclay & Lawrence, 1995b). To some extent these are related ideas, although the farming styles concept is more fully developed. The two streams of thought had independent geneses, but since Vanclay became aware of the styles of farming approach in 1993, and introduced it to Australia (Vanclay, 1993, 1995a, 1995b), he has been implementing the concept through his involvement in the Cooperative Research Centre for Viticulture (Glyde & Vanclay, 1996; Mesiti & Vanclay, 1996, 1997), and the Cooperative Research Centre for Weed Management Systems (Howden & Vanclay, 1998; Howden et al, 1998). This paper is a presentation and critique of the farming styles concept, contrasted with Vanclay’s notion of farming subcultures. It presents extensive information about farming styles because, although there is now a considerable literature about the concept in English, much of it is in books that may be hard to obtain in Australia, being published by little-known Dutch publishers. This paper is supported by an additional paper by Howden et al (this issue) which considers the application of the concept in Australian broadacre cropping.

## **Farming styles and farming subcultures compared**

The general understanding of the farming subculture concept is that the primary motivation of farmers is their notion of 'good farm management'. Such a social construction will vary between different groups of farmers, such as exist in different commodities, in different regions, and possibly within commodities and regions. Because the idea is developed by individuals – to assume otherwise is to reify the concept – different individuals develop variations on the notion, so a wide range of meanings of 'good farm management' exist.

Farmers develop their ideas from a wide range of sources, first and foremost from discussions with other farmers, but also from other media including the rural press and extension messages. Extension language and concepts are widely used by farmers (Mesiti & Vanclay, 1996, 1997; Howden et al, 1998) reflecting the hegemonic power of extension within farming circles. Given that 'hegemonic extension' has influenced farmer discourse to the extent that farmers utilise extension language and extension concepts, it is appropriate to accept that this is part of legitimate farmer discourse, making the influence of extension truly hegemonic. The notion of good farm management is therefore also influenced, but not determined by, extension notions about best management practices (BMPs), although, amongst farmers, there still remain varying notions about what actually is 'best'.

The social notion of 'farming practice' involves not only physical management strategies such as how to till (or not to till) the soil, but also includes notions about choosing crops, marketing, financial management, relating to new

ideas, relating to extension, and so on. E. Portela (1994) even discusses manure as a social practice! The notion of good farm management includes considerations of all the issues involved in farming practice, thus farming could be categorised according to groupings of related ideas about good farm management.

Vanclay (1992, 1995a, 1995b, 1997) did not define the notion of farming subcultures more fully, and did not really consider the idea that classification of farmers into defined groups was possible or valuable, since a subcultural notion is much less deterministic than the farming styles approach. Although Vanclay does not take an approach that is explicitly based on Pierre Bourdieu's (1977, 1990) notion of cultural habitus, there are certain similarities, and research could proceed in that direction (for example see Phillips & Gray, 1995).

The styles of farming approach of van der Ploeg has changed over the years, and to some extent inconsistency exists even within a single publication. The essential idea is that within a farming community there is a set of discrete styles (or strategies of farming) which farmers are acutely aware of, and from which they actively choose a specific strategy to guide their own management. By participating in a style, they contribute to the evolution of that style over time. The styles are created not only through sociocultural dynamics, but also as a response to structural forces, and different styles potentially exist for different market situations of different farmers. The essential defining characteristic is that they explain diversity within agriculture, and they explain why traditional farming practice continues to survive in the face of globalisation. Referring to the pressures to change experienced by

Friesian dairy farmers, van der Ploeg (1994a: 19) writes:

*Yet there is considerable heterogeneity to be found in dairy farming in Friesland, a heterogeneity that can in no way be ordered and classified in unilinear terms. Farmers themselves understand and order it in terms of different farming styles. Heterogeneity for them is not a random phenomenon: it entails specific clusterings. Each 'cluster', ie, each 'way of farming', is the outcome of the specific strategies of the actors involved. In other words, the complex 'totality' of the dairy farming sector does not represent, at least for the farmers, a chaotic reality, a total confusion, neither does it represent a not yet complete transition towards 'competitive farming'. On the contrary, it is a meaningful whole, composed of many different styles. The latter are described in an every day language that, from a strictly academic point of view, might seem confusing, ambiguous and imprecise. But to the farmers themselves, this everyday language is quite unequivocal ... I refer to terms such as cowmen, breeders, economical or greedy farmers, big farmers and intensive farmers. For Frisian farmers each term is an umbrella, a metaphor, linked to very precise, detailed and multidimensional discourses. Taken together, these terms refer to the cultural repertoire with which Frisian dairy farmers define, reproduce, adapt and/or transform their farming practices.*

At the macro and applied level, the styles of farming concept is rather similar to the Vanclay farming

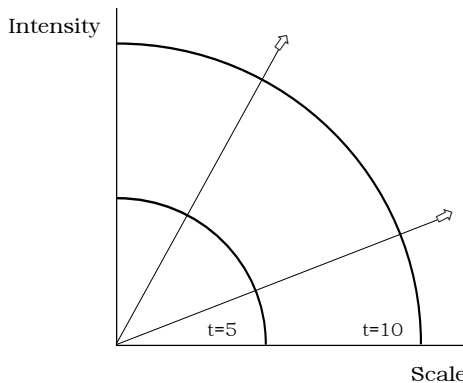
subcultures approach, but there are major theoretical differences. The farming styles approach is much more developed, and while it does not have a wide following outside of Europe, is firmly established within European rural sociology (see Buttel, 1994: 14). Professor van der Ploeg has many PhD students and research colleagues, many of whom have published in Dutch. English language publications represent only part of the discourse on the concept. In English, at least, there is no thorough critique of the concept, although at various conferences, some individuals have indicated dissatisfaction with various aspects of the theory. What follows is a lengthy critique of farming styles theory, but we believe that there is still considerable merit in the concept, albeit not totally in the manner suggested by van der Ploeg.

## **Farming styles outlined and critiqued**

*Farming styles refers to a cultural repertoire, a composite of normative and strategic ideas about how farming should be done. A style involves a specific way of organising the farm enterprise: farmer practice and development are shaped by cultural repertoire, which in turn are tested, affirmed and if necessary adjusted through practice. 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: 241).*

Van der Ploeg (1990) constructed the farming styles notion by arguing, at least initially, that farming styles exist in terms of market orientation, specifically in terms of the cross sectional analysis of intensification and

**Figure 1: Hypothetical sketch of different enterprise development patterns in a homogeneous setting**



Source: van der Ploeg, 1990: 8

extensification (see Figure 1). Van der Ploeg (1995b) argued that structural forces increase diversity in agriculture, because farmers not only have the choice of extensification or intensification, but any combination of these two strategies. This is in contradistinction to the ‘prevailing normative perspective on farm development’ (Roep & de Bruin, 1994: 219) which presumes that growth is homogenising rather than diversifying. This diverging trajectories concept would appear to be fundamental to van der Ploeg’s understanding of farming styles and appears in most of his explanations of the concept, as well as in his earlier work which can be seen as

a precursor to his articulation of farming styles (van der Ploeg, 1986). By doing research with farmers in a range of settings around the world, van der Ploeg (1990) determined that in a given location, there are a number of strategies that farmers can adopt. As an example, in Emilia Romagna (Italy) van der Ploeg (1990) constructed a hypothetical scenario of two dairy farmers, each of whom has manifested a different combination of intensification and extensification (Box 1).

Van der Ploeg (1990) asked his research participants a number of questions:

- which of the two farmers described would be the best farmer?

**Box 1: van der Ploeg's conceptual starting point**

<b>Farmer 1</b>	<b>Farmer 2</b>
(intensification)	(extensification)
20 cows	30 cows
5 000 litres/cow/pa	4 000 litres/cow/pa
100 000 litres/pa	120 000 litres pa

Source: van der Ploeg, 1990: 40 (slightly modified)

- who would have highest income?
- who would have lowest costs?
- who would have best survival chances during low prices?
- are the two examples 'real'?
- are the examples found nearby?
- why do some farmers go one way, while others go the other way?
- which of the two farmers is most like you?

In considering the answers to these questions, van der Ploeg reflected on the general issues of whether there is a conscious choice for intensification or for extensification, and what the rationale for each option might be. It is on this basis that van der Ploeg developed his farming styles conceptualisation.

This original methodology of van der Ploeg is unsatisfactory because these examples were preselected and imposed from a theoretical position. They do not derive from data or any qualitative assessment. Further, by being steeped in a structural notion of market position, the theoretical analysis does not support many of van der Ploeg's conclusions or his description about the farming styles perspective, especially the issue about the perceived rationality of the styles. Van der Ploeg appears to have made a leap of faith from his theoretical position surrounding the structural context of farming styles to presuming the physical existence of styles in the manner suggested by the

theory. A more recent definition of farming styles by van der Ploeg (1995a: 122) further establishes the importance of structural factors in his conceptualisation:

*In general terms a style of farming can be defined as a particular unity and coherence of the following elements:*

- (a) a set of strategic notions, values and insights shared by a particular group of farmers concerning the way farming ought to be organised*
- (b) a specific structuring of the practice of farming that corresponds to the strategic notions or 'cultural repertoire' used by these farmers*
- (c) a specific set of interlinkages between the farm enterprise on the one hand and the surrounding markets, market agencies, government policy and technological developments on the other. These interrelations are structured in such a way that the specific farming practice can be reproduced over time.*

But van der Ploeg was also appreciative of cultural responses to development, and refers to his farming styles theory as being an explanation of 'endogenous rural development' (van der Ploeg & Long, 1994; van der Ploeg & van Dijk, 1995). In work preceding his articulation of farming styles, he elaborated on the local knowledge – or, borrowing from Mendras (1970), *art de la localité*<sup>1</sup> – of potato growers in the Peruvian highlands (van der Ploeg, 1989, 1992). Even here, though, the notion that cultural practice is

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<sup>1</sup> It is important to appreciate that '*art de la localité*' should NOT be translated as 'art of the local' or 'local art', since the concept, in French, also includes skill and craft knowledge. Thus, 'local (cultural) knowledge' is a better understanding of this concept.

embedded in structural relations is strong. Elsewhere, van der Ploeg's (1992, 1994) arguments about craftship, *art de la localité* and '*resistenza sociale*' are independent of structural forces.

The phraseology of farming styles originally derives from E.W Hofstee, a person van der Ploeg (1994a: 17) describes as 'the founding father of Wageningen agrarian sociology'. Van der Ploeg (1994a: 19) also suggests that his methodology is based on that developed by J.W. Bennett (1982). However, Hofstee's conceptualisation was quite different to van der Ploeg's notion, referring more to differences in farming culture between regions, rather than within regions. Citing Hofstee (1985), van der Ploeg (1994a: 17) translated the original definition as 'A style of farming then is the complex but interrelated set of notions, norms, knowledge elements, experiences, etc, held by a group of farmers in a specific region, that describes the way farming praxis should be carried out'. Hofstee's work referred to the pre WWII period, and van der Ploeg (1994a: 17) argued that Hofstee did accept that the styles or 'local cultural patterns' did constitute 'specific, actively constructed responses to the structuring principles which then dominated and within which farming was embedded'.

Van der Ploeg (1994a) argued that in the post war period the structuring principles have been deeply transformed, and as a result, the styles of farming have changed to become intraregional responses, and diversity within regions emerged. Perhaps it is not appropriate for us to comment of the applicability of this argument within the European situation, but such an argument would be invalid in the Australian context. It is evident that intraregional diversity has always been a feature of Australian agriculture. This may be because of the multi nation

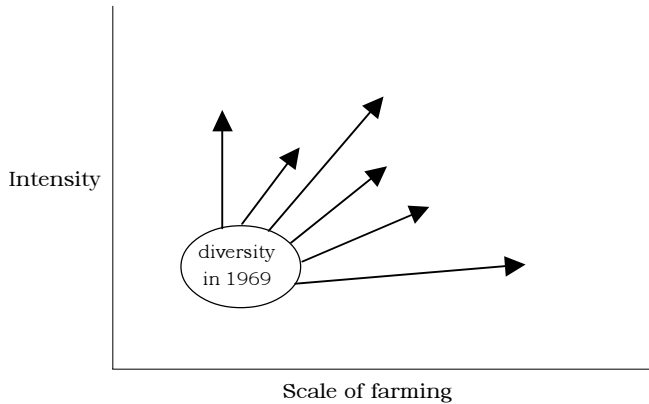
migrant settler base, as well as Australian agriculture having been structured by various government policies to encourage the pursuit of farming as an occupation by people without farming backgrounds (see Dovers, 1992; Vanclay, 1997).

Our primary critique of van der Ploeg's early models describing the emergence of styles (eg, 1990: 8) is that they all assume a common initial starting point, that is, all farmers start at the 'Origin'. Because of this, van der Ploeg (1990, 1992, 1997) argues that structural forces create diversity – farmers have the space between the trajectories of intensification and extensification to manoeuvre. But if all farmers are not at the same starting point (and therefore not at the Origin), structural forces potentially reduce diversity by making certain styles unviable. Van der Ploeg potentially accepts this argument and has changed his representation of this diagram in recent publications (see Figure 2).

Van der Ploeg argues that farming styles are obvious and known to farmers, and he regards the classification of styles as an ethnotaxonomy (van der Ploeg, 1989: 150; 1994a: 29; Leeuwis, 1993: 80, 199, 265).

*The point I am making is that farmers not only have a shrewd awareness of the diversity of styles within a specific region, but frequently they also have a thorough and detailed knowledge of the interlinking mechanisms with the markets and technology on which such styles are founded and of the particular elements of the local cultural repertoires that are mobilized and used in different styles* (van der Ploeg, 1994a: 19).

**Figure 2: Differential developmental processes in Dutch dairy farming between 1969 and 1982**



Source: van der Ploeg, 1995a: 121 (slightly modified)

Empirical research work into farming styles by Mesiti and Vanclay (1996, 1997) and by Howden et al (1997, 1998, and next paper) has revealed that farmers are not aware of the full range of styles that are present, nor are they consciously aware of their own style. In fact, Howden and Vanclay (1998) argue that the styles are not tangible empirical styles, but are heuristic 'parables' that exist as examples to assist farmers in their decision making.

A contradiction in van der Ploeg's understanding of farming styles is his notion that the styles are social constructions that are constantly 'produced and reproduced through the goal-oriented, strategic actions of the actors involved' (1994a: 26), and are therefore dynamic and nebulous compared to various diagrams in many of his publications (for example, van der Ploeg, 1994b, 1995b), that suggest the styles are real empirical entities. The styles are 'consciously organised' as van der Ploeg (1994a: 26) argues, but surely they are consciously organised at the

level of the individual farmer and not at the style level or by a group of farmers, as van der Ploeg appears to suggest.

*The notion of heterogeneity not only applies to farming styles in their entirety but also to the variance within each style of farming. This stems from the simple, but nonetheless quite often neglected fact that some actors are more successful than others in applying a particular strategy (van der Ploeg, 1994a: 26).*

If the styles are socially constructed, and interactively moulded by farmers, then surely they do not exist as empirical external entities, but only in the form of ideal types as identified by researchers. Individual farmers may appreciate the existence of a range of styles, but their analysis of the styles (or strategies) that exist may vary from other farmers. Van der Ploeg gives an abundance of examples throughout his works, but does not really give much

detail about how the examples given were actually determined. It is thus somewhat difficult to utilise his methodology for identifying styles, or to critique it.

## **Operationalisation of farming styles by Leeuwis**

There is no well-articulated methodology provided by van der Ploeg in English, not even in the book chapter (1994a) which contains the word 'methodology' in its title and which is given as the reference to the methodology in many of his publications. However, Cees Leeuwis (1993), a research associate of van der Ploeg, provided a detailed operationalisable methodology that could be utilised by anyone seeking to replicate the work. Because Leeuwis's (1993) work is in English, and was the first work on farming styles Vanclay read, it is the work that we tend to cite as being the research method utilised as the starting point for our work.

Leeuwis's book has been reviewed in a leading rural sociology journal, *Sociologia Ruralis*, where it was suggested that 'It is a masterpiece' and that it was a 'significant and original contribution to extension theory' (Jones, 1995: 127-128). It should be noted that discussions by Vanclay with van der Ploeg suggest that van der Ploeg oversaw Leeuwis' research and may have developed the methodology. Leeuwis (1993: 197, 199) provides two short statements that would seem to support this view. Thus the following description of the methodology will indicate Leeuwis (1993) as the source, although the reader should understand that the ideas may have come from van der Ploeg.

Leeuwis (1993) undertook two studies relating to the use of computer based decision support systems (DSS), one with dairy farmers in de Achterhoek in

eastern Netherlands, the other with gas-heated hothouse cucumber growers in Limburg, in southern Netherlands. There were differences in the methodology used, and the dairy farmer example is the most elaborated in Leeuwis (1993: 197-206). Since the dairy example more explicitly addresses farming styles in the van der Ploeg conceptualisation (and may have been developed by van der Ploeg), it is the methodology that will be presented here. Leeuwis's conclusions, however, following his second study are quite different to those from his first study.

In terms of the dairy farming example, of the 142 farms in de Achterhoek on which the dairy DSS was used, 28 were selected for qualitative interviewing by a complicated procedure designed to ensure representation of diversity amongst the selected sample. Interviews were subsequently undertaken at 27 of those 28 farms. An interview schedule was then developed covering a wide range of issues including information developed from the qualitative research. Questionnaires were completed by 104 of the 142 farms using the DSS, with rural sociology students being used as survey interviewers.

In the qualitative interviews, farmers were asked 'to discuss different types of farms that they themselves distinguish' (Leeuwis, 1993: 199). In order 'to help them reflect on this issue', the interviewers (Leeuwis and three other researchers) 'introduced a scheme with two axes [again scale and intensity] and four descriptions in relation to these' (Leeuwis, 1993: 199). A diagram is provided by Leeuwis, but it is not necessary to reproduce it here. Thus the original starting point of van der Ploeg (1990), used in Emilia Romagna and described earlier in this paper, has been extended to identify four theoretically imposed scenarios: (1) high milk-yield per cow and few cattle per person; (2)



high milk yield per cow and many cattle per person; (3) low milk yield per cow and few cattle per person; and (4) low milk yield per cow and many cattle per person. Questions similar to those used by van der Ploeg in Emilia Romagna were used to stimulate discussion.

Leeuwis (1993: 199) suggests that:

*From the lively discussions that were evoked, the researchers were able to extract some frequently recurring descriptions and labels relating to different types of farmers. ... For every label, a short description was made on the basis of interview material.*

Leeuwis then goes on to say that ‘these “portraits” were presented and read to farmers during the survey (without mentioning the corresponding label) and farmers were asked to indicate the extent to which they could identify with it on a three point scale’ – ‘not identify’, ‘partly identify’, and ‘fully identify’. Farmers were also asked which singular portrait they identified with most. The portraits are presented in Box 2.

Leeuwis’s six styles are similar, but not identical, to the four styles – breeders, calm farmers, stayers and business like farmers – identified by R. de Bruin and J. Roex (1994) amongst dairy farmers in the Friese Wouden (Friesian Woodlands) in The Netherlands. They are also similar to the six styles – multiple-goalers, freewheelers, cowmen, pioneers, machinememen, and optimal farmers – mentioned by Roep and de Bruin (1994) citing a 1990 study by van der Ploeg and D. Roep of dairy farmers in the Dutch veenweiden (pastureland on peatsoils). There is some confusion because van der Ploeg (1994a: 20, 29) lists the farming styles of Friesian dairy farmers as cowmen, breeders, economical or greedy farmers, big

farmers and intensive farmers, but indicates (page 29) that the results are ‘largely identical to the research results discussed in the chapter of Roep and de Bruin’ (1994).

The portraits were included in the survey of 104 farmers. Although Leeuwis (1993: 198) indicates that a wide range of questions were asked in the survey, he presents only limited analysis of those additional questions. The main purpose of the survey, at least as implicit in Leeuwis (1993), was the empirical testing of the portraits. Four per cent of farmers could not choose a single portrait as best representing them. Leeuwis (1993: 202) indicates that ‘we were slightly unhappy with the classification for a variety of reasons’ including: (1) a concern about the loss of information in only using the variable measuring style most like the farmer; (2) recall bias by respondents, in that the interviewers had a suspicion that the respondents did not remember the details of the portraits as they were being read out; (3) the distribution of farmers into the categories was different to that expected based on the interview data; and (4) a feeling that the Practical Farmer portrait was ‘too vague and/or too generally appealing’, so that it became a category which contained further diversity. Consequently, discriminant analysis was used to classify farmers into styles using the responses to the six portraits, with the original self-classification being the initial classification variable to create the discriminant equations. Leeuwis (1993: 203) acknowledges that their use of discriminant analysis ‘deviates from common practice’ because discriminant analysis is normally used either to select discriminating variables, or, to classify new cases when information about the classification variable is not available. In this case, the original cases are being reclassified, with Leeuwis (1993: 203) reporting that ‘a

**Box 2: Portraits used in the study reported by Leeuwis 1993, pages 200-201.**

**Portrait 1:** (relating to the Multiple Goaler)

I like a nice-looking, fat cow. Milk yield is not without importance; turnover and accretion, however, are very important indicators to me. They are the indicators that I attune my breeding to. By not letting the milk yields increase too much, I can keep more cows, and thereby increase turnover and accretion.

**Portrait 2:** (relating to the Thrifty Farmer)

I try to farm in as economical a way as possible. I reduce costs as much as possible, and I minimise indebtedness. In this manner, I manage to get a good income and maintain prospects for the future.

**Portrait 3:** (relating to the Practical farmer)

I try to take very good care of everything I do. The art of running a farm is in fine tuning. In developing one's farming enterprise one has to be careful not to shoot beyond the possibilities. One needs to find a practical balance.

**Portrait 4:** (relating to the Cowmen)

I very much enjoy breeding, and to me the sweet things in life are to take care of the animals, and to see the milk flow. This is why I have to pay much attention to the production of roughage, and the fine tuning of fodder and feed rations. In order to allow for this way of working I needn't have too many cattle, since that would be at the expense of individual care and attention.

**Portrait 5:** (relating to the Machinemen)

I most enjoy working with machinery, both on the land and in the garage while doing maintenance and repairs. The most important thing to me is to do the work on the land and in the stables as efficiently as possible. I do not aim at the highest milk production per cow; that is not much of a problem, for the masses will make up for it.

**Portrait 6:** (relating to the Fanatical Farmer)

In order to have a good income, one needs to first invest firmly, and spend a lot of money. It means that one has to work hard and really push it. That is why they sometimes call me a fanatic; but one has to be like that if one wishes to survive.

NOTE: The wording of these portraits may appear a little 'strange'. This is because they were originally presented to the farmers in Dutch. Leeuwis has translated them, but has elected not to recraft them in English, but to use an English expression that is as close as possible to the original Dutch. It should be noted that Dutch grammar and style is quite different to English expression. I might also comment that 'the sweet things in life' is a Dutch colloquialism, and so its use in the cowmen portrait does not have the comical nature in Dutch as it does in English.

considerable number (52) of farmers' were reclassified. In other words, in more conventional statistical-speak, the resultant model only correctly classified 50 per cent (52/104) of cases, which is a rather poor result.

## **Critique of the Leeuwis methodology**

While Leeuwis does provide sufficient detail about the methodology to enable replication, it also provides detail that can be used to critique it. In our view, there are serious concerns about the methodology as implemented by Leeuwis; but the overall conceptualisation is sound, and a revised version of this basic approach has been utilised by Mesiti and Vanclay (1996, 1997) and Howden et al (next paper). To restate: the basic methodology of Leeuwis is as follows:

1. qualitative interviews were conducted in which farmers discussed the different types of farmers that they themselves distinguished
2. frequently occurring labels and descriptions were identified in the analysis of the interview data
3. portraits to describe each label (style) were constructed
4. a quantitative questionnaire including portraits was developed
5. survey respondents asked how much they identified (on a 3-point scale) with each portrait and which was most like them
6. discriminant analysis was undertaken to predict style based on the scores of the portraits.

As suggested, there are problems with Leeuwis's utilisation of this basic

methodology at each step. In the first step, the use of a starting conceptualisation for discussion inevitably biases the result of the discussion towards the categories (styles) as already conceived by the researcher. The possibility of completely different styles emerging is low, especially if the culturally defined styles are not affected by structural dimensions. The number of styles is also likely to be limited. Leeuwis's (1993: 80) claims that the methodology is an attempt to 'generate taxonomies on the basis of local classifications' and 'to move in the direction of a farmer-generated classification' (Leeuwis, 1993: 199) appear overstated. Leeuwis (1993: 265, 333) subsequently determines that the defined styles do not represent an ethnotaxonomy as claimed by van der Ploeg (1994a: 29), but it should perhaps have been obvious at the beginning that they could not have.

The second, third and fourth steps sound fairly straightforward, but when they come to be undertaken in practice, it becomes obvious that these steps are quite complex and fraught with possible error. In any case, in an attempt at replication, it emerges that Leeuwis provides insufficient informative comment about these steps. The major problem is that farmers describe the styles of other farmers in pejorative terms, and the detail provided cannot easily be used as the basis of the portraits as written in the first person. The disparaging comments are used because one way to legitimise one's own activities is to discredit the strategies of others. Thus, extensive wordcrafting of the portraits is required (see Mesiti & Vanclay, 1996; 1997; Howden & Vanclay, 1998, and next paper). A consequence of the wordcrafting is the potential for the portraits to be influenced by the preconceptions of the researchers and therefore not valid representations of the styles as

perceived by farmers. While the researchers would attempt to reduce social desirability, the existence of normative views about appropriate farm management makes it impossible to eliminate this entirely.

The fifth step raises many concerns. The lack of the use of interview cards (for example, cards containing the portraits) in the interview process meant that there was considerable reliance on the respondent's memory, potentially affecting the reliability of the data. This would especially affect the selection of the style that was most like each farmer. Again, Leeuwis provides an inadequate description of the process followed by the interviewers in the event that the respondents did not remember all of the portraits, nor does he comment on the order in which the portraits were presented, and, whether this might affect the outcome. Order effect is a well known source of bias, with first and last mentioned items tending to be better remembered.

In addition, Leeuwis has translated the portraits to be read in English in the first person. In discussion with him, he assured Vanclay that the Dutch versions were also in the first person. The use of the first person is problematic when the portrait is being read to a respondent by the interviewer, although its use would be appropriate if the respondent were to read the cards for themselves. Finally, the use of only three response categories does not allow for a wide differentiation of responses, and, if further quantitative analysis was being planned, such as the discriminant analysis, an extended response range would have been preferable.

In terms of the sixth step, there does not appear to be sufficient justification to undertake the discriminant analysis in the manner suggested by Leeuwis. The stated reason for its use relates to

concerns about the reliability of the data, and a need to overcome the possible error due to social desirability and memory issues. But in order to develop the discriminant model that might be a better predictor of style, the statistical procedure requires accuracy in the data of the initial cases. Because the potentially misplaced cases are included in the original analysis to create the equations, little faith can be placed in the ability of these equations to accurately predict the style of a farmer. Why use the six style portraits as the independent or predictor variables? Surely there is error in those variables too? Could not other data that were collected in the survey have proved more helpful? In any case, since there is a direct relationship between the independent (predictor) variables (the six styles) and the dependent (classification) variable (the style most like the farmer), surely there would be multicollinearity and other statistical problems that would void the procedure, or, at least create difficulties in interpreting the results, especially in the direct entry method (rather than stepwise procedure) used by Leeuwis. Leeuwis provides no suggestion that this is the case, and the detail provided is not sufficient to determine this.

Leeuwis (1993: 202) provides results suggesting that his functions 'explain almost 89 per cent of the variance' imputing this as a successful result of his analysis. However, this figure is meaningless – it merely says that the three functions explain that amount of variance. With a dependent variable with six response categories, it would take five functions to explain all of the variance. The result being reported here indicates that the remaining two equations do not provide much more additional explanation (are not significant) and an analysis using three equations is sufficient. This result is not a statement of the accuracy of the

classification process, only evidence that using three functions instead of five is statistically defensible.

One of the conventional measures of success in discriminant analysis is the number of cases correctly classified. But Leeuwis (1993: 203) reports that the discriminant analysis 'helped us to reclassify a considerable number [52] of farmers'. He appears somewhat evasive here, because – reinterpreted – this means that the discriminant analysis only correctly classified 50 per cent (52/104) of cases. Since Leeuwis's purpose is the reclassification of existing cases, what is the measure of success of the analysis? If it is not possible to use the solution that maximises the percentage of correctly classified cases, how can the researcher/statistician choose which method is better? In discriminant analysis, the major statistical measure of success is not 'correctly classified cases', but rather the ratio of between-groups variability to within-groups variability, and is measured by the eigenvalue. However, maximising this tends to increase correctly classified cases as well (Norusis, 1988). Leeuwis clearly violates the assumptions of the discriminant analysis procedure and lacks independent data to determine how his farmers ought to be classified.

Leeuwis analyses his discriminant analysis results further, attempting a form of multidimensional scaling by labelling the dimensions created by the three significant discriminant functions, and by using the function coefficients to plot cases (each farmer) in multidimensional space. A thorough refutation of this would need a greater articulation of statistical theory than is appropriate in this paper. Suffice it to say that we are suspicious of the legitimacy of this approach, and doubt its utility even if it was acceptable. Given the problems with the accuracy of the data and the validity of the

functions, even if it was legitimate and useful, it would not be appropriate in this case. However, some form of multidimensional analysis using a wider range of variables (not just the portrait scores) could be a useful procedure.

The general need for the use of discriminant analysis also should be questioned. It may not be necessary to classify farmers as actually belonging to a specific style. Obviously, in testing whether styles are tangible, actual concepts which farmers embody, then it will be necessary to empirically test the style by determining the ease of classification and 'goodness of fit' of farmers into their designated styles. However, if the styles are conceived of as ideal types, which farmers adapt to suit themselves, rather than adopt in toto (see Howden & Vanclay, 1998), then classification of farmers into styles could be meaningless. To the extent that styles are heuristics, if the purpose of identifying styles is for the targeting of strategies of extension, then the classification of farmers into styles may well be unnecessary, unless one-to-one extension is being considered.

Leeuwis's questionnaire included a range of data other than the portraits. Leeuwis uses this data to construct a four to five page description of each style (pages 217-248). While these descriptions are interesting, there is little evidence to support many of the comments made. Of the data that are statistically analysed, very little of the reported findings are statistically significant, but the lack of significance does not stop Leeuwis (1993: 208) analysing them:

*Moreover, I use the indicators even when the differences are not statistically significant. Nevertheless, since the indicators help indeed to get quick overviews, and because the*

*differences may have a sociological (rather than a statistical) significance (see section 6.3), I have chosen to use them anyway.*

To us, this is simply unacceptable and a violation of basic understanding of statistical concepts. What is sociological significance? Does he mean sociological meaning? Can sociological meaning exist independent of statistical significance? Leeuwis's discussion in his Section 6.3 does not address these issues to the extent it should. With insignificant findings, Leeuwis ploughs on regardless, when caution should dictate and say that there is no evidence. The profound effect of this is that Leeuwis has reified his styles and the differences he perceives, when his data says there are no differences between the styles on some of the variables indicated. What does it mean when the variables for which there is a predicted difference, are not statistically significant? Surely it means that either the classification of farmers into styles is unreliable, or that the conceptualisation of the six styles is invalid since predicted hypotheses are not supported, and the styles fail to be statistically differentiated on key variables, or both.

So far, details of the second study by Leeuwis – that of hothouse cucumber growers – have not been given. However, it is worth noting that in this study Leeuwis fails to identify mutually exclusive styles, but settles on the identification of three key factors, each of which can be used to differentiate types of growers. Because of this, Leeuwis (1993: 333) backs away from his prior commitment to farming styles perspective, especially its perception as an ethnotaxonomy – even though in this case study there was no starting framework as existed with the dairy farmers! However his retraction from the

usefulness of farming styles is hasty and inappropriate. By selecting too narrow a group of growers (as he himself acknowledges), the potential for farming styles to be identified is limited.

*Before discussing diversity among cucumber growers in the southern study club, I must emphasize that they constitute a rather particular group of growers. As is implied by the official name of the study club ('Stoke-Cucumber Study Club Brabant/Limburg') all growers in this club have adopted a particular technological package, which centres around the use of substrate and the heating of the glasshouse with a central stoking-unit and heated water tubes (which at the same time are used as rails for transportation trolleys). Thus, these enterprises are characterized by lay outs, practices and technologies that are rather different from those in more conventional enterprises, in which growers use hot air cannons for heating and (in many cases) plant their crops in the soil. In fact, these differences are so extensive that they have stimulated (and legitimized) the establishment of a separate 'stoke-cucumber study club', next to the 'hot-air-cucumber study club' (Leeuwis, 1993: 286).*

Leeuwis further states that all growers in this club would be regarded as 'frontrunners' (innovators), or, in terms of the descriptions used in a 1992 report by Spaan and van der Ploeg, 'Toppers' (Top Growers), as opposed to 'Echte Tuinders' (Real Growers) or 'Middenmoters' (In-Betweeners).

*On one end of the extreme, the Top Growers are (roughly speaking) described as specialised growers, who tend to*

*grow on substrate and who invest heavily in new technology with the view of producing as much as possible per square metre ... In contrast, Real Growers are far less specialised, tend to grow on soil and make much more use of their own labour and craftsmanship (or l'art de la localité) rather than of technology. ... In terms of this particular classification of horticultural styles, I would no doubt have to classify virtually all members of the stoke-cucumber study club as Top Growers. Thus using this latter classification would leave little room for discussing diversity within the group of horticulturalists under investigation* (Leeuwis, 1993: 287).

Nevertheless, Leeuwis (1993: 286-287) reports that 'although the growers under investigation already belong to a particular sub-category, my study shows that even within this group there is considerable diversity'. The case study provides a good discussion for the need for decision support systems to understand social considerations, and could even be thought of as a case study of a particular style, perhaps one investigating residual diversity within a style. Leeuwis is wrong to back away from commitment to the concept of farming styles on the basis of that case study. Given the existence of residual diversity, the issue arises as to what extent the styles are deterministic.

A final major criticism of the van der Ploeg and Leeuwis works is that they are gender blind in that there is little reference to females and the presumption is that farmers are male, and that women's contribution to farming is unimportant. Leeuwis (1993:

198) even suggests that 'in quite a few cases farmers' wives and/or children participated actively' in the qualitative interviews. However, the language of masculine extension prevails: 'interviews were held with the (mostly male) nominal "head" of the [farm] enterprise' (Leeuwis, 1993: 198). S. Whatmore (1994) has already criticised the farming styles concept on this matter, yet she fails to appreciate the potential for a farming styles conceptualisation which includes gender issues.

The critique of the van der Ploeg theory and the Leeuwis methodology has formed the basis of an improved methodology, and a new conceptualisation of farming styles is being forged through research now being undertaken in Australia.

## **Farming styles research in Australia**

Despite many problems, the concept of farming styles holds much promise. The theory, stripped of its market structuration, could be used to explain sociocultural diversity in Australian agriculture. The failure of extension in Australia (Vanclay, 1994b) is partly caused by the failure of extension to appreciate differences between their various clients, and the treatment of farmers as homogenous (Vanclay, 1997; Vanclay & Lawrence, 1995a, 1995b). By developing a true emic approach, a better understanding of the differing worldviews and rationales of different types of farmers could be developed, and this could be used in the promotion of sustainable agriculture, through better extension targeting, as well as informing agricultural science of the

problems as perceived by (different types of) farmers.<sup>2</sup>

In market research, market segmentation is common practice. Market research companies have developed sophisticated schema to classify people according to consumer behaviour. Unfortunately, most of this analysis is unpublished proprietary information. Agrichemical resellers also have their proprietary and/or personal classifications of farmers to assist them in their marketing. In education, D.A. Kolb's (1984) learning styles is a widely accepted concept, so the notion that there is diversity that is explainable by the development of types or styles is entrenched. At a minimum, farming styles is the identification of groupings of farmers that have common worldviews and/or management practices.

For Vanclay (1997), the way to understand farmer behaviour and outlook on life, especially in terms of environmental management, is the appreciation of farming practice as a social construction created by different farmers in different ways. Initially, this led him to explore the concept of various farming subcultures, but exposure to the farming styles perspective provided another avenue of exploration. Involvement in two Cooperative Research Centres (Viticulture and Weed Management Systems), provided the opportunity to implement this research in practical application in collaborative research with postgraduate students.

## **Lessons learnt from the Australian experience**

Mesiti and Vanclay (1997) found that while almost all grapegrowers could select a style as being most like them, the styles tended not to be mutually exclusive with grapegrowers able to identify parts in many styles that were relevant to them. They conclude that 'it is likely that the styles are heuristic ideal types which are used by farmers in their interpretation of farming practice, rather than empirical entities that explain precisely what farmers actually do and what they think' (Mesiti & Vanclay, 1997: 286-287). A further concern was that some portraits worked better than others, and that the portraits may not be a reliable or valid way to represent the styles. Styles may or may not exist as real tangible entities, but some other methodology would be needed to identify them. Howden's preliminary results are provided in the next paper, and are similar to those of Mesiti. Howden, however, discovered a total of 27 potential styles in broadacre cropping, raising questions about what actually constitutes 'a style'. While the styles were relatively easily identified in the focus group data, it was impossible to identify farmers who embodied those styles in reality, leading to the conclusion that the styles only exist as mythical entities (see Howden and Vanclay, 1998). Howden and Vanclay (1998) also raise concerns about the methodology used, and suggest that the focus group processes lead to the articulation of mythical styles, which

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<sup>2</sup> R.M. Keesing (1976: 173), in an introductory anthropology textbook, describes emic and etic thus: 'An emic analysis of behaviour takes an actor's eye view and analyses the stream of events in terms of its internal structure ... [This can be contrasted] with etic analysis, where the observer uses a descriptive notation derived from comparative study and describes the behaviour from this external perspective. (The two are not incompatible, but can be used at different stages for different purposes ... )'.



can become embellished by the researchers in the wordcrafting required to produce portraits.

The farming styles research projects that have been implemented in Australia have contributed to the critique of the theory, and have led to the development of an improved methodology for farming styles research. While there are many concerns about the Leeuwis methodology, its fundamental basis is sound, and much could be done to salvage the theory. The most important point is the desirability of the development of an approach that does not rely on a starting conceptualisation embedded in market structure.

The approach that has been developed was used first by Mesiti and Vanclay (1996, 1997) and then Howden and Vanclay (1998 and next paper). A different approach was used by Glyde and Vanclay (1996). We had hoped that this new approach would be truly ethnotaxonomic or emic, as was intended by van der Ploeg and Leeuwis. However, as we have argued earlier, their methods are really no advance on other researcher-defined or etic classifications, except that they are based on a different theoretical position. Thus, instead of using qualitative interviews with the starting framework (to legitimate the preconceived styles), focus groups were utilised where general discussion about the types of farmers that exist have been used as the basis of developing a true ethnotaxonomy (although we are now unsure about whether they really exist!).

The methodology as used by Mesiti and Vanclay (1996, 1997) and then by Howden in the following paper, revolved around the use of a structured participation activity requiring participants to write responses on index cards, which were then used as the

basis of a pinboard themeing process. This method ensured participation by all present, and limited the undesirable influence of social dynamics. Open discussion, facilitated by the focus group coordinator following the themeing of the responses to the card technique, provided fuller descriptions of the identified styles. The questions used for the card technique to elicit responses were:

1. describe yourself as a farmer (single card)
2. describe how you differ from other farmers (single card)
3. describe all the different types of farmers you know of in your area (one per card).

To overcome concerns about gender blindness in farming styles, focus groups were undertaken with farm women with comparisons to determine whether the identified styles differed from those identified by farm men. Focus groups were also conducted with extension officers, rural counsellors, and others having an awareness of farmers. Potentially, the styles themselves could reflect different gender relationships. Once freed of the ideological commitment to market positioning that was imposed by van der Ploeg and Leeuwis, it is possible that on-farm gender relations may be one of the differentiating variables of some of the styles.

Improvements in the survey stage of the methodology, as implemented by Mesiti and Vanclay, include using interview cards containing the portraits which farmers would read themselves. At the end of the rating process where farmers rate each card (portrait), all the cards were handed back to the respondent for them to select the card that was most like them. Such a procedure would

eliminate any memory bias, but not unfortunately social desirability response bias, nor bias due to the farmer's ability to intellectualise. Other improvements included increasing the number of response categories available in response to the portraits to four: a lot like me, a fair bit like me, a little bit like me, and not at all like me.

To overcome the problem of intellectualisation, to some extent at least, instead of using portrait cards written in the first person, named caricatures or cartoon-like figures could be created (although this has not yet been trialled). Farmers could then be asked how much like (the cartoon character) 'Bill' they are, how much like 'Joe' they are, and potentially how much like 'Sue' they are – although the analysis of gender in farming styles requires greater consideration (cf, Whatmore, 1994). Assumptions that farms are run by couples are equally as false as assumptions that farms are run by men – there is a diversity of management styles. A final approach could be to create short video clips with actors talking about themselves (describing a portrait). Although expensive and time-consuming, this would be the best approach as it would overcome issues relating to level of literacy and level of intellectualisation and abstraction that the other methods presume.

While the need for discriminant analysis has already been questioned in general terms, validation of the identified farming styles is required if the styles are conceived of as empirical entities, and not just as ideal types or heuristics. A primary purpose of a classification procedure, such as discriminant analysis, might be the selection of variables which could be used to classify farmers into styles instead of using portraits (since the portrait technique is time-consuming and

costly). It might be possible to identify variables that could classify farmers into styles on the basis of data that was already available, or easily obtainable. Another reason would be to gain information about which variables do differentiate between the styles to enhance the understanding of the styles themselves. Thus the survey component should include a broad range of questions which could be used to identify differences between styles. Mesiti and Vanclay (1997) provide details about the types of analyses that could be undertaken.

Analysis of differences between styles still rests on an accurate classification of farmers into styles. Whether the discriminant analysis is done or not, there are errors at the level of portrait construction and in having farmers self-rate portraits, especially portraits wordcrafted by researchers. Rather than rely on self assessment, another strategy to classify farmers into styles might be that farmers are allocated to the appropriate category by the use of expert assessment rather than self-assessment. Experts may be the researchers themselves, or may be key informants, such as other farmers or extension officers. The use of extension officers to classify farmers into styles was attempted by Howden and Vanclay (1998), but was not successful.

While this improved methodology would alleviate many of the criticisms levelled at Leeuwis and van der Ploeg, there are remaining concerns. If the styles are not consciously held, farmers may not self-identify with a particular description, even though it may be an appropriate description of that farmer's style. The social desirability of certain styles and negative connotations of certain others may mean that respondents are not strictly honest when considering their own situation. Differences between (styles of) farmers may mean that there

is not a common language, so the use of qualitative means to identify styles and descriptions may cause problems, especially those epistemological approaches that are ideologically committed to the notion of 'giving voice' as an important component of (action) research.

## **Conclusion**

There are a number of issues that are yet to be resolved. Leeuwis and van der Ploeg would argue that the styles are real, tangible and discretely identifiable. They also suggest that farmers are acutely aware of their own style, and of the total repertoire of styles. The Australian research would seem to question this. Perhaps styles are heuristic ideal types that farmers approximate, rather than tangible entities that farmers can easily be classified within (see Howden & Vanclay, 1998). At least the styles identified by farmers in focus groups would appear to be so, but it might still be possible for there to be 'real' styles to which farmers could be classified, although farmers are not aware of those styles. There needs to be greater articulation of the nature of such styles. This issue also raises questions whether styles need be mutually exclusive categories, or whether styles exist as dimensions in a multidimensional space (see Glyde & Vanclay, 1996).

Are farming styles properties of a farm or a farmer? How can they be properties of a farm if they are socially based and embody or incorporate social attitudes? One response to this question is given by the reflection that if farm technical activity is cultural, then meaningful differentiation of technical practices could well indicate differences in style. So even if we accept that styles are properties of farmers, differences in farm practices could represent the

manifestation of the style differences. However, such an approach does not resolve the issues of how we deal with differences between individuals within a farming enterprise.

Some farmers farm different commodities. In broadacre cropping, farming needs to be thought of in terms of a cropping system, with different crops and pasture phases in a farming rotation; but the grazing aspect is quite different from the cropping aspect, with some farmers (styles) having distinct preferences either for grazing or for cropping. In viticulture, Mesiti and Vanclay (1996) found that some grapegrowers also grow citrus, and occasionally other crops. How are farms or farmers to be classified into styles when they manifest different styles depending on the crop? Is it possible that the styles that are identified would vary among the same farmers depending on the point of entry, or the issue of interest that is inspiring the research?

The extent of the hegemonic influence of extension discourse in affecting farmers' own constructions of difference is revealed through people familiar with Rogers' adoption categories sometimes failing to differentiate between those categories and the farmer derived categories presented here (see Mesiti & Vanclay, 1997; Howden & Vanclay, 1998; and next paper). Clearly, this influence is a problem when it comes to establishing farmers' own constructions. How do we get past hegemonic extension? Does hegemonic extension represent a problem because it subordinates farmers' own cultural understanding – or do we accept that extension is one of the influences that farmers are exposed to, and that farming culture comes to embody extension language? If we accept the latter, then, extension categories could be considered as

legitimate as any other categories farmers might conceptualise.

The final remaining questions about the farming styles concept relate to how the styles change over time, and how farmers change styles. How permanent or enduring are the styles, both in terms of the styles themselves, and also in terms of farmers' membership in a style? How are farmers recruited to styles? Further research will explore these questions.

It is clear that farming styles is a useful conceptualisation of diversity in agriculture. However, styles of farming cannot be identified in the manner suggested by van der Ploeg, and the methodology developed by van der Ploeg as articulated by Leeuwis (1993) is fraught with problems. Nevertheless the basic methodology can be adapted and improved, and has been implemented successfully in Australia. A result of that application is our conclusion that farming styles should be thought of as heuristic models of possible action (ie, exemplars) that guide farmers (Howden and Vanclay, 1998). It is possible however, that some form of tangible farming styles may exist, but if they do, they are not obvious or known to farmers and they cannot be identified by focus group techniques which seem to promote the articulation of mythologised images about farming.

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# Working with the Grain: Farming styles amongst Australian broadacre croppers

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*by Peter Howden, Frank Vanclay, Deirdre Lemerle and John Kent*

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## **Introduction: van der Ploeg's farming styles theory**

Farming styles theory of J.D. van der Ploeg represents a promising method for conceiving and understanding diversity in agriculture, even if there are some theoretical contradictions and questions about its practical application and operationalisation (see Vanclay, Mesiti and Howden, preceding paper). The intention of this research was to test the applicability of farming styles theory in the Australian context, as a suitable classification procedure to assist in the targeting of extension of the products of agricultural research – particularly the research of the Cooperative Research Centre for Weed Management Systems (CRCWMS). A major concern of the CRCWMS is the development of resistance of some weed species to commonly used herbicides. By using a farming styles conceptualisation, the weed management strategies of the different styles of farmers might be identified, with possible targeting of extension to encourage the wider adoption of improved weed management to reduce the reliance on agricultural chemicals – at least to prevent the development of resistance.

In this study, focus groups were conducted in the Riverina region of southwest NSW to identify the possible farming styles that may exist in broadacre cropping. By focusing on its practical application in the broadacre

cropping context, this paper reflects on the theory of farming styles; discusses problems in the methodology; and addresses some of the key questions about the farming styles concept as raised in the previous paper. We also present a description of the styles that were identified by farmers, and the wordcrafted 'portraits' which will be used in further research.

## **Methodology**

Ten focus groups were conducted within a 200 km radius of Wagga Wagga between March and May 1997. Nine sessions were with farmers, six with farm men, two with farm women, and one mixed. The final group consisted of government and private agronomists and a rural counsellor. Farmer participants were selected by a variety of methods, including contacting the coordinators (usually farmers) of existing Landcare and farm-walk groups. These coordinators contacted and organised participants for the focus groups. Some participants were recruited by contacting farmers in a locality from a list provided by agronomists. Working with existing groups, or with those from a small locality, was considered desirable because it overcame some of the problems of getting farmers together in an agreed location, at an agreed time.

The general focus group methodology was adapted from that developed by Mesiti and Vanclay (1996) for their use amongst grape growers in the Sunraysia district around Mildura (and see Vanclay, Mesiti and Howden, this volume). In the focus groups, a structured participation exercise was used in which farmers were asked to write responses to three questions on to index cards: (1) Describe yourself as a farmer; (2) describe how you differ from other farmers in the area; (3) Describe all the different types of farmers in the area (one type per card). Answers to the third question were 'themed' on a pinboard with farmers asked whether each selected card was the same or different to those already on the board. Each emerging 'style' was discussed and expanded upon by the participants after the themeing process (the focus group process is described at greater length in Howden & Vanclay, 1998; and Howden, forthcoming). In addition to the three general questions, participants were asked about weed management strategies and also how these might vary according to the styles identified. The focus group process was recorded and transcribed.

Focus groups were held in community settings, usually meeting rooms in hotels and sporting clubs, in the evening or afternoon. The formal process lasted about two to three hours, and was followed by informal social discussion with liquid refreshment. This post-session discussion provided the opportunity to gain feedback on how the process worked, and more particularly how the participants related to the process, and to the emergent styles.

## **Focus group outcomes**

There was a general willingness and interest by farmers in being involved.

Farm group organisers had relatively little trouble in assembling participants for focus groups, and there was a high level of acceptance from those farmers contacted individually.

Some early indication of the acceptability of the concept came from the responses of contact farmers, a number of whom asked if a 'range' of types of farmers was required. This indicates acceptance by farmers that there is some obvious diversity present in the farming community. It should be noted that no mention of the ultimate purpose of the focus groups was indicated, with the emphasis instead on the general goal of the research – the need to develop a general picture of the farming community in farmers' own words.

Most groups were able to relate to the concept in a general way, but were unable to identify a wide range of styles. However, in the informal discussions that took place after the formal process, farmers were accepting of the styles that were mentioned as having arisen from other groups. Thus there is an acceptance of the existence of 'styles', but it is clear that farmers are not conscious of their own style, nor do they routinely or systematically classify other farmers in terms of styles.

A problem that emerged in the process was the prevalence of extension language, with adopter categories frequently being mentioned as groups or styles – as occurred in similar research conducted in viticulture (see Mesiti & Vanclay, 1996; and previous paper). The focus group facilitators (Howden and Vanclay) made a special effort to emphasise that what they were after was not necessarily extension categories, but the way farmers thought about other farmers in their own terms.

The issue of the different meanings individuals attach to labels also became important during the focus group process. Farmers were asked to write a name (label) for each style, followed by a brief description of farmers in that style. It was noted on several occasions that differing style descriptions were placed together in the themeing process, based on the group understanding of the meaning of the style label. Inevitably, the themeing process worked at the label level, rather than at the level of the description. Group dynamics, often manifested in such processes, meant that the individual contributors often did not attempt to point out these irregularities.

Other issues related to the ability of farmers to articulate their understanding. Those who seemed more able to articulate styles appeared to be farm women, and the better educated male farmers. These people also identified 'extension' categories more frequently, possibly because of their greater exposure to extension literature. Generally, farmers became more confident with the styles concept as the focus group process proceeded.

Each group identified a number of styles. Some groups identified as many as 16 discrete styles, while one group identified only eight styles. While the styles identified varied between groups with different styles being identified in each group, there was also a degree of consistency especially in relation to the certain major styles. Some of the styles mentioned were poorly described and not uniformly accepted by all group members. Furthermore, there was some disagreement within groups about how mutually exclusive the styles were, and it was suggested that some contributed cards could belong to a number of the themed styles.

Aggregating the results of all groups revealed in excess of 20 styles, however, the degree of inconsistency in terms of the styles reported, as well as different language (labels and descriptions), made a simple aggregation process difficult. To resolve this, an expert panel was established to theme the results of the focus groups.

## **Expert panel**

The 'expert' panel comprised seven people including the authors of this paper. Panellists possessed a range of expertise including rural sociology (and specifically farming styles theory), agricultural science, education and extension. The purpose of this group was to consider all the styles that had been mentioned by the focus groups, and to conduct a themeing process (similar to that undertaken in the focus groups themselves) to aggregate the identified styles into one comprehensive set. This was done by utilising the same cards (retyped for legibility) that were submitted by the participants in the focus groups, augmented by comments and quotes made in relation to that card during the focus group process.

There were relatively few problems in assigning each card to a style. In a few cases, however, there were differences of opinion among the 'experts' about the 'meaning' of a style or style label. This tended to occur with cards that contained very little description of the style other than the style label, and when labels were highly emotive or pejorative. This highlights that words (labels at least) do not have a consistent meaning across different groups of people.

Farming styles in broadacre cropping

As already suggested, farmers are not conscious of farming styles, although they can relate to the concept and to specific styles when they are raised. Each focus group only identified a few styles, but across all groups a wide range of styles emerged. After deliberation on the outcome of all farmer focus groups, the expert panel identified a total of 27 styles (see Table 1). This large number of styles raises serious questions about exactly what constitutes a style, and how styles can be determined and identified.

In terms of the styles that were identified, there was reasonable consistency across the focus groups about the major styles. According to the focus group participants, the six major styles probably account for about 80 per cent of all farmers. A number of clearly identifiable minor styles also existed, each probably accounting for only a very small percentage of all farmers. A small

number of poorly defined styles also existed. These styles are poorly defined because it would be difficult to distinguish farmers in this style from farmers in other styles. Some of these were only mentioned in passing (in post-focus group discussion), and probably constitute only a very small percentage of farmers.

Farming styles – descriptions

Descriptions were constructed from the styles identified by focus group participants, including the transcribed data from the discussion about the styles that occurred in the focus groups. To some extent they contain the language used by farmers, and are often disparaging of farmers in that style because that is how farmers themselves described many styles. The style descriptions presented may not be coherent and may not be sufficiently clear to uniquely identify a particular farmer. It is important to note that these descriptions are not the styles, nor the description of those styles, that the

Table 1: Farming style labels

Major styles	Minor styles		Poorly defined styles
<ul style="list-style-type: none"><li>• Innovative</li><li>• Middle of the road</li><li>• Progressive</li><li>• Resource limited – personal</li><li>• Resource limited – structural</li><li>• Traditional</li></ul>	<ul style="list-style-type: none"><li>• Autocrat</li><li>• Developer</li><li>• Diesel burner</li><li>• Doom and gloom</li><li>• Expansionist</li><li>• Grazing emphasis</li><li>• Hard driver</li><li>• Lazy</li><li>• Lifestyler</li></ul>	<ul style="list-style-type: none"><li>• Old rich</li><li>• Opportunist</li><li>• Organic</li><li>• Perfectionist</li><li>• Risk taker</li><li>• Secret farmer</li><li>• Skite</li><li>• Tinkerer</li></ul>	<ul style="list-style-type: none"><li>• Committee person</li><li>• Lucky</li><li>• Mediator</li><li>• Safety-net farmer</li></ul>

authors of this paper are advancing as being descriptive of broadacre cropping farmers. These are the words of farmers.

### **Innovative:**

These farmers are at the forefront of agricultural change. They are seen as always looking at the 'big picture' of farming and not afraid to spend money on inputs. They are usually first to take on innovations, often running test strips or trial plots in conjunction with agricultural researchers or extension officers. They are viewed by some farmers as risk takers, although consensus was reached in most groups that farmers in this style take 'calculated' risks, often after consultation with researchers. It was also thought that with the increased risk these farmers take comes a higher rate of 'failure' (often seen as resulting from 'bad advice'). Innovative farmers are regularly involved in trialing some of the newest technological innovations such as GPS/infra red paddock mapping, satellite technology or computer decision support systems, even if the benefits of implementing such technology are long term or even uncertain.

### **Progressive:**

These farmers are similar to the Innovative style in that they are up to date with the latest in farm innovations and plan over a longer period than most farmers. They conduct gross margin analysis, utilise forward contracts, and closely watch commodity markets. Progressive farmers, however, are described as being generally more cautious (or perhaps less risk oriented) than Innovative farmers. They are seen as 'watching' the Innovative farmers and adopting those practices that are suitable to their farming system after they have been 'proven' (in trials, for example). Farmers in this group may

also run their own trials and test plots, but usually only for chemical spray rates, fertilisers, etc, and generally not innovations that require a large capital outlay (such as infra red paddock mapping), and/or those that require a significant change in their current rotation practices. Some view these farmers as the 'best' farmers because they only adopt those practices that are 'proven' or not seen as subject to high risk.

### **Middle of the road:**

Middle of the road (MOR) farmers were variously described as the 'average farmer', 'genuine triers', 'follow along', or 'practical' farmers. They are seen as progressively cautious, and often three to ten years 'behind' in the adoption of significant agricultural innovations. Farming to them is more likely to be a way of life as opposed to a job or a business, and usually there are strong family ties to the land. While some see them as struggling to keep up with changes, others see them as just 'plodding along', but generally contented (in good seasons!). These farmers are also viewed as skilful farmers in terms of agronomic, pastoral or husbandry skills, but lacking in the high level business skills that constitute a Progressive farmer. They generally run mixed enterprises and may more readily take on innovations that do not significantly alter their current farming practices and/or those that have a demonstrable yield benefit. MOR farmers can be torn between past (perhaps inherited) practices and more recent innovations, the likelihood of adoption possibly depending on the influence of neighbouring farmers or those farmers they associate with.

### **Traditional:**

Although generally viewed as being only older age farmers, some younger

farmers also belong in this group usually because they were following their fathers' practices. Described as 'stuck in their ways', 'scared of change', 'old fashioned', or 'living in the past', most thought that farmers in this style work the land too much, and utilise simple rotations (if any at all). Many focus group participants suggested that these farmers see themselves as having been reasonably successful for many years (and even generations), and therefore they see no need to change. It was also thought that farmers in this group were not able to adapt to recently emerging farming trends such as new weeds or improved pasture management techniques or fertiliser rates.

### **Resource limited – structural:**

These farmers were viewed as 'good' farmers with some financial impediment to their progress, sometimes regarded as 'being dealt a bad hand'. Also called 'battlers' or 'trapped' farmers, it was suggested that the property that these farmers inherited, or own, may no longer be big enough to be viable, and they lack the financial backing to expand. While some suggested that these farmers could be on the way to bankruptcy, most thought that these people were 'survivors' who would always 'make ends meet'. Farmers in this style are limited in the inputs they can afford and perhaps restricted to 'older' farming methods. Based on farmers' descriptions, it is difficult to separate from this group, those lacking the business skills to progress. Many groups spoke about the burden of the huge increase in the amount of information that farmers have to process, and the extra skills that they have to learn. Farmers in this style, though, are not seen as lacking in basic agronomic skills.

### **Resource limited – personal:**

Also described as 'ostrich' farmers, 'useless farmers', 'followers' or 'muddlers', many factors were suggested as indicative of this group, such as: lack of efficiency; lack of vision; lack of decisiveness; and/or lack of timing. Some felt that this group consisted of older, poorly educated, farmers who could not keep pace with change, though most felt that neither youth nor a good education excluded farmers from this group. Generally these farmers are viewed as 'hard workers' who never quite get a grasp of basic agronomic/ husbandry skills or cope with the complex needs of modern farming. One farmer described them as being on an 'exercise bike' (pedalling furiously but getting nowhere). While 'learners' were initially linked with this group, it was felt that learners or young farmers are 'pre-style', and most will eventually develop the necessary skills. Farmers restricted in their farming skills are seen as very slow, or, not able to learn, and perhaps destined for bankruptcy.

### **Risk taker:**

Although this style was described in most groups, there are varying and conflicting definitions of the notion of 'risk'. Farmers in many groups suggested that most/all farmers were risk takers, although after discussion it was agreed that some were 'mad risk takers'. Also described as 'gamblers', it was agreed that these farmers were generally not the 'best' farmers and their success often depended on luck. It was suggested that these farmers would adopt an innovation without adequate research or consultation; try any idea no matter where it came from; put in entire paddocks of a new crop without first trialing it; or perhaps persist/ experiment with an innovation previously rejected by the wider farming community.

### **Old rich (gentleman farmers, landed gentry, squattocracy):**

It was suggested that these farmers were almost remnants of a bygone era. Farming had been in their family for a long time and they are now living on the off-farm investments of their family. Some suggested that their lifestyle does not match their income, and that their fortunes were being eroded under current economic conditions, but this was not a common theme. Generally this style was seen as conservative because they are comfortable; perhaps 'semiretired at 35!'; and often with staff to run their properties. It was also suggested that many farmers in this style have a more conservative approach because there may be no heir on the farm to implement a more progressive strategy. Implicit also in the label 'squattocracy' and perhaps true to a more conservative farming strategy, is the suggestion that these farmers usually run stock and only occasionally crop.

### **Lifestyler:**

'Lifestyler' is a broad label which includes hobby farmers with a 'weekend' farm, part time farmers who work off the farm, and 'city' people who have retired with 'a package'. The common theme defining this style is that the main source of income is (or was) off-farm and therefore there is not an absolute need to profit from farming. The practices of this group can be varied. Hobby farmers were generally seen as adopting the more bizarre practices and commodities (relative to the normal practices for the broadacre cropping area) such as grapes, exotic cattle, mohair and/or Angora goats. Others, perhaps the retirees, were understood as having generally larger properties and less diverse commodities, and perhaps as being more permanent residents on their property. Most in the Lifestyler group

are seen as lacking in basic agronomic skills and experience, and are often seen as being a 'nuisance' because they fail to control weeds or pests. There are also 'boundary issues', such as their animals escaping onto neighbouring farms, and restrictions on neighbouring farmers in terms of chemical use (because of spray drift affecting grapes, etc).

### **Expansionist:**

This style was seen as 'expand at all costs' farmers and were variously called 'corporate' or the 'big acre farmers'. These farmers were described as just waiting to swallow up neighbours and as eroding the 'community' of farming by buying out family farms. One group explained that often the business strategies of this style make it difficult for other farmers to stay on their land because they make offers too big to refuse, or buy out all the neighbouring properties, making staying uncomfortable or difficult. These farms are usually owned by companies or individual off-farm investors, and, although they put on staff to manage their properties, often this is not seen as a replacement for the families lost to the region. Issues of economy of scale were perceived as important, such as being able to afford to improve herds by culling poorer animals, or able to endure bad yields because of the size of their production. On the negative side, it was felt that these farmers place different emphases on certain important agronomic practices, for example, it was suggested that these farmers do not adequately control weeds because of their threshold calculations or the sheer size of the land being managed.

### **Hard driver (hungry):**

This style was described as comprising farmers who pushed their land and/or their stock too hard. Making a profit was seen as their primary objective and

the 'size of the wallet' and/or the size of the property as the measure of success for this style, with sustainable land management and good animal husbandry being sacrificed for short term profit. They were also described as 'arrogant' and 'too cunning for their own good', because they were mercenary in their dealings. Like Secret farmers (below), these farmers were accused of not being sharers of information or contributors to the community of farming.

### **Organic:**

Farmers in this group have made a conscious decision not to use chemicals in the production of their crops or animals. While it was suggested that all organic farmers 'believed the new age bullshit', discussions with organic farmers revealed a diversity of motives. However, it was thought by some focus group participants that some farmers may claim to be organic only to justify not spending money on controlling weeds. The wider intention of this style, though, was to include only those farmers who have taken on true organic production techniques. Not much information on this style came out of the focus groups, aside from a label, as most farmers could only identify one or two organic farmers. Most thought these farms could not be viable.

### **Grazing emphasis:**

Also called the 'shrewd stockman' the common notion behind this style is that these farmers have taken a more conservative approach to farming. Although they own land that is considered good for cropping, they have chosen not to lock themselves into high finance machinery, chemicals and fertilisers. Stock are seen as less affected by the wild fluctuations in the market and environmental conditions which make cropping a more precarious and risky business. Many suggested

that these farmers may have owned their land for a while and are unwilling to go back into debt. It was also suggested that farmers in this group may 'opportunity crop' when grain prices are expected to be high, when they expect a good season producing a bumper crop, or perhaps if they are forced to by continuing low stock prices. It should be noted that growing fodder crops for grazing is not regarded as cropping by farmers in other styles.

### **Autocrat:**

Farmers in this group were identified as being (usually) male Traditional farmers, in absolute control over the business/agronomic decision making on their properties. These farmers feel that they know all there is to know about farming their land and that their heir (always a son or son-in-law) has to earn the right to take control. Some groups suggested that the only way that these farmers' sons will get control is when the Autocrat dies. Anecdotal evidence included that of a 55 year old farmer who still has no say in the running of the farm, and where an 80+ years old father still has an iron hold on the farm chequebook.

### **Secret farmer:**

Farmers in this group are described as always pumping other farmers for information while giving little back. Generally there was agreement that they were successful farmers but not active participants in the 'community' of farming. It was considered that these farmers would go to farm walks and field days where they would stand at the back and absorb information, but would not attend a function where they would have to share information. Although not frequently identified in the focus groups, when raised in post-focus group discussions, this style generated much discussion and mirth. One suggestion was that these farmers were ultra-



competitive. Another explanation was that farmers perceived as being Secret were either quite happy keeping to themselves, (perhaps they were introverts), or that they themselves were tired and burnt out from getting no feedback from farmers they dealt with in a previous style.

### **Diesel burner (machine men):**

Although this type was poorly represented in the number of cards contributed, this style was well understood when mentioned at post focus group discussions. Descriptions of this style included that of a farmer always spending time polishing the tractor, and 'pub farmers' boasting in the local hotel about how fast they can plough a paddock. Another group spoke of farmers in this style as 'consumers' who like the idea of sitting in the cab of a new piece of machinery. It was suggested that farmers can become instant Diesel Burners when they buy a new tractor, but the essence of this style is an innate fascination for machinery. Diesel Burners are likely to have a high number of cultivations. These farmers were seen as impulsive in that they would buy a new tractor during a good season without regard to the possibility of a bad season following, and possibly ahead of other more pressing needs on the farm.

### **Tinkerer (frustrated engineer, gadget guy):**

The archetypal story that describes this style is that these farmers 'spend all their time in the shed'. They would rather make a new machine or modify an existing one than buy a new one. One farmer noted that this type of farmer could be very useful in a large family unit where 'he' could be responsible for farm maintenance with others responsible for other aspects of farm management. On their own Tinkerers may not be very efficient. For

example, it was suggested that they spend so much time tinkering that it often impinges on the time they should be spending doing other important farming tasks. Others denied that this was the case, stating that the efficient ones did their maintenance in the off-season. Generally this group is admired for their mechanical skills.

### **Opportunist:**

Not a clearly defined style. One group spoke of a number of properties that rarely, or seemingly never, grew a crop suddenly producing wheat in a recent season. The notion is that these farms persist with stock until the season indicators suggest good grain prices. Others suggested that farmers in this style put in whatever crop was 'fashionable' or likely to fetch a good price whether or not it fitted well into a rotation. It was also suggested these farms may put in a crop if stock prices have been low for a while. The implication, therefore, is that farmers in this style are not long-term planners. There was no suggestion that these people were risk takers in all farm practices, just opportunists in their cropping enterprises.

### **Perfectionist:**

Farmers in this group were seen as being pedantic to the point of letting the completion of minor tasks interfere with the broader needs of farming. For example, they were viewed as often being late putting in crops or harvesting because they are too busy fiddling around perfecting aspects of the running of their enterprise. All their fences have to be in order, their farm neat and tidy, and weeds are sprayed immediately on identification. Specific examples included waiting too long for the 'best' sheep prices or overworking a paddock to get it 'just right'. These farmers have no concept of optimality

and have never considered economic thresholds.

### **Developer:**

Not necessarily a 'farmer' as such, this style usually is a business/company which is playing the property market. Often the land is left sitting until it is sold, or they may have a manager to do rudimentary maintenance and/or run farming activities in the interim. They differ from the Expansionists in that they get their money from the land rather than from the products of the land. Farming practices are secondary to the future sale of the land, and therefore do not have the long term viability of the farm as a concern. These properties are recognised by local farmers, both as a waste of good productive land and as a source of problems such as weeds and pests.

### **Skite:**

Also described as 'liars', 'wankers' and 'blow-hards', there seemed to be two themes in this style: farmers who exaggerate the truth, and farmers who are simply 'loud'. The main theme behind the first group is overstatement of yields/yield potential or boastfulness about other production achievements. The suggestion is that neighbours and other farmers know the actual production abilities of this farmer and are aware of the exaggeration. Anecdotal evidence suggests that, aside from annoying other farmers and getting them 'off-side', farmers in this group are prone to over estimation of their own, or their land's, capabilities (in one case leading to bankruptcy).

### **Lazy:**

The central element of this style was that the farmers comprising this group did not work as hard at farming as other farmers thought they should. Consequently, the farms of those in this

group often exhibited obvious signs of neglect such as fences falling over, too much dead wood, firebreaks not maintained, inadequate control of weeds and rabbits, old erosion gullies that had not been restored. The expert panel assigned many cards to this group suggesting that it was a frequently identified style, but on examination of those cards, it was clear that this grouping contained a collection of themes. In addition to the actual description of laziness, other ideas expressed were pessimism, daydreaming, lack of care, indifference, and being laid back. A more precise definition of this group is difficult because of the emotive nature of the word 'lazy' and various opinions about what constitutes being lazy.

### **Doom and gloom:**

These farmers were seen as constantly complaining about the weather, markets and other aspects of farming. While some suggested that these farmers were blaming markets or the weather for their own inadequacies, others insisted that they were just 'moaners'. The bulk of the cards, though, suggested that the cynical attitude of these farmers manifested itself in actual practices in that these farmers would not spend money on inputs because of their pessimism about the worth of that outlay. Another farmer suggested that these farmers were not 'good' farmers because their attitude 'can get other farmers down.'

### **Portraits**

The pejorative language used by farmers in describing the styles prevents any use of these farmers' descriptions in any process of farmer identification from a list of styles. Instead, portraits must be wordsmithed reflecting the concept embedded in each style. The following

portraits are written in the first person because they are to be presented to farmers on individual cards (without the label!) for farmers to assess their likeness to each portrait. Because the existence of the poorly defined styles is debatable, and because further research in the form of case studies will only take place with a limited number of styles, portraits have not been written for all styles. Portraits were also not written for those styles which embodied a large amount of negative language and seemingly lacked any positive aspects (eg, Doom and gloom, Skite and Lazy).

### **Innovative:**

I like to be at the cutting edge of agricultural change. I am constantly seeking new technical information, and new ideas about ways of doing things. I experiment with these new ideas to find the best way they can be implemented on my farm. Sometimes they do not work out, but experimenting is important to get the best ideas. I maintain close contact with local Agronomists and agricultural resellers and I belong to at least one farm organisation such as AgBureau, Farm 500, Top Crop, etc. I attend most field days and read the latest Agricultural journals and newsletters from New South Wales Agriculture very soon after receiving them. I believe that the technology of farming is growing at a fast pace and if you do not keep up with it you will be left behind.

### **Progressive:**

The modern business of farming requires that you put a lot of effort into running the farm at an optimal level, conducting gross margin analysis, watching the markets, keeping the books up to date, and planning into the future. I keep up with all the latest innovations and regularly seek information from a wide range of sources, including New South Wales

Agriculture, Agronomists, or farming organisations such as the Kondinin Group and Top Crop, or, by attending field days. I will adopt a new practice if there is a demonstrated benefit, but I generally like good evidence that a new product is going to be appropriate for my farm. I like to run my farm at maximum efficiency, but I am careful that the changes I make are appropriate for my farm system.

### **Middle of the road:**

I enjoy farming, even though it can be tough at times. I am good at what I do and feel it is a good lifestyle for my family and I. Other farmers have more modern machinery and spend more money on inputs, but that does not make them better farmers. Being a good farmer means doing the right thing as much as possible, making a living, and providing for your family. Sometimes I would like to make more money out of farming, but I feel that there is no need to place my farm or family at risk by taking unnecessary chances. I run a mixed enterprise, wheat and sheep, and feel that I manage both well. Farming is my life and I cannot see myself ever doing anything else.

### **Traditional:**

Farming has been in the family for a long time. I was born to be a farmer. Farming is in my blood. Sometimes I wonder if some farmers today are moving too fast and are not developing an understanding of their land. There is no substitute for experience and I am wary of outsiders who tell me that there is a better way of doing things and that I should change my practices. They do not know my land. You don't need bigger, newer, tractors, complicated rotations, or fancy crops that require more chemicals, in order to be a good farmer. You need to get the basic things right first and not be afraid of hard work. I know my land from years of

experience and I know how to make my soil produce.

### **Resource limited – structural:**

Farming today is getting more and more complicated and keeping up with all the changes can be difficult and expensive. I would like to be a successful modern farmer, but the increasing cost of farming is making it difficult to keep up. My farm isn't big enough to be viable and much of my equipment is too old. I can't afford to borrow any more money, and I am concerned that I am so much in debt that if I have another bad season, it may be my last. My soil can be difficult to manage, however, I am doing the best I can with what I have. I know I could improve my soil, get better yields and maximise profits, if I wasn't being held back by the current economic climate in agriculture.

### **Resource limited – personal:**

Farming is my life, but somehow I just can't keep up with all the changes that are happening. There is so much information to go through that sometimes it is difficult to make the decisions that are necessary to run a viable farm. Farming is too complicated now. I sometimes feel that I am going backwards even though I work hard. I like farming and I care about the land, but now you have to spend so much time catching up with all the changes that there is less time for doing the important things.

### **Risk taker:**

The only way to make money at farming is to take risks. In order to keep ahead you have to try new and different things. The technology of farming is growing at a fast pace and if you do not keep up with it you will be left behind. Some farmers are scared to take a chance with new ideas, but I like to give them a try. Sometimes I try to make things

work that other farmers have rejected, or that have not been approved of. Persistence can sometimes pay off. Other farmers think that I take too many risks, but, you cannot succeed in this business without taking a few chances or spending some money on inputs.

### **Old rich:**

My family has been farming for a long time and I am considered to be a member of the established farming elite in the area. I feel however, that the golden era of farming has gone. Farming today is more complicated than it was, and you need to know so much more about so many things now. Consequently, it is harder to make as much money. Fortunately, we have investments other than this farm. Even so, it seems that we are eating up our financial reserves. Being a farmer used to be very pleasant especially at farming activities, such as those at the saleyards, but today there are fewer opportunities for social interaction. I also find that I don't get the respect I used to.

### **Expansionist:**

In farming, bigger definitely is better. In today's agro-economic climate, small farms are going to the wall because they do not have enough land to be viable. I am continually seeking to expand the size of my farm so that I can spread my risks. In the past, you could get by farming on a small block, but the reality of today's farming is that if you don't get big the increasing cost of inputs will eat up all your profits. I am not going to be left behind.

### **Hard driver:**

The Australian environment is tough, and its variable climate can make profitable farming difficult. You have to push your land hard to make it

produce. Successful farmers make money by making the most of their opportunities and getting the maximum profit out of their land and their stock. If you are too cautious and worry too much about every weed or every possible disease your crop or your stock can get, you will never get anything done. In order to make a decent living you have to accept that you can't do everything to look after the land. When there is more money in the future, then things can be put right. Some people will think that I push too hard but it is the only way I can see to keep ahead.

### **Organic:**

Concerns about the effects of farm chemical contamination of our food are increasing. I believe that there are better, more environmentally friendly ways of controlling weed and insect pests. I have made a decision that my farm environment would not be exposed to potential contamination by farm chemicals. Some conventional farmers think I am mad, and sometimes it is difficult to find people who support my way of thinking, but running a chemical free farm is important to me. Perhaps my crops are not always as clean as those of other farmers, but at least I have the satisfaction of knowing that I am doing what is best for the soil and for the people that are consuming its products.

### **Grazing emphasis:**

I like working with stock. Dealing with animals is much more like real farming than driving around on a tractor, especially these modern airconditioned machines. Also, stock is a much less risky enterprise than grain which is more subject to wild fluctuations in markets and the climate. Cropping has also become so much more complicated today and I don't like to be locked into high finance machinery, chemical and fertiliser budgets. While stock prices are

not always high, you can make a reasonable living. Producing prime lambs, beef, or good quality wool can be very satisfying. Anything I do make by cropping is a bonus rather than my core activity.

### **Autocrat:**

To be a good farmer requires a lot of experience. Many young farmers of today think they can just throw money about and be successful, but they have a lot to learn. I want my son/s to be good farmers, but I am not prepared to let them take charge until I am sure that they are capable of running my farm correctly. Many farms today are going to the wall because they have not been managed properly. I know my land from years of hard work and I know how to make my land produce. Farming is not easy, you need to get the basic things right first, and I want my son/s to experience the hard work involved in farming before they take on the considerable responsibility of running a farm.

### **Secret farmer:**

Farming today is a cut-throat competitive business. This means that you should not give your best secrets away. I seek a competitive advantage to maximise my profits and ensure I remain a leading farmer. To do this, I seek a lot of information about markets and farming methods from a number of sources. I attend the field days and farm walks that I think will be valuable but I prefer to listen rather than talk.

### **Diesel burner:**

The modern technology of farming today is making things much easier. You can get around a paddock much faster if you have a good tractor and if you have the best machinery for doing the tasks of farming such as ploughing, planting or spraying. I like driving tractors and I

like keeping my machinery in peak condition. There is not much point in spending money on new varieties and farm improvements if your machinery is not up to scratch. I feel proud of my machinery and when I am sitting in my tractor, I feel that this is what farming is all about.

### **Tinkerer:**

The thing I like most about farming is being in the shed and working with my farm equipment. I keep all my machinery in good condition and I spend a lot of time making sure it is all running at its best. It gives me an enormous thrill to modify and improve my machinery. I'm always welding something. I can make just about anything to do any task required on my farm. I think this is an enormously valuable skill because I have saved a fortune. Why buy new equipment when you can make it yourself or modify what you have to suit the purpose?

### **Opportunist:**

The business of cropping is far too changeable to lock yourself into just producing wheat or canola on a regular basis. I like having a steady income from stock and I don't like to spend huge amounts of money on chemicals, fertilisers and new machinery, if there is not a good chance of a profit. I keep a close watch on the markets and seasonal forecasts and select crops that are likely to make a good price. If the season looks like it is going to be bad, I won't put a crop in at all. I am comfortable concentrating on stock and I don't see why I should go into heavy debt. If you are smart you can make a good dollar watching the markets and making the most of opportunities.

### **Perfectionist:**

I believe in doing everything properly and in having a tidy farm. I put a lot of

effort into making sure that my property is running at its best to the extent that other farmers may think I am a bit fanatical. But I believe you cannot make a decision about what crop to put in or what sprays to use until you have investigated all the possibilities and ensured that the decision you make is exactly right for your cropping system. I am continually seeking advice from Agronomists about such things as the best rotations, chemicals and spray rates. To get the best prices, your farm has to be very clean. You cannot afford to have contaminated grain or faults in your wool, so I make sure that I control all my weeds and that I don't miss any. I am proud of my farm and work hard to keep it looking at its best.

## **Discussion**

There is considerable disparity between van der Ploeg's notions of farming styles and the way diversity between farmers is conceived by Australian broadacre farmers. There is no evidence that Australian farmers are conscious of their 'style' or the styles of other farmers, thus contradicting van der Ploeg's conceptualisation of styles as ethnotaxonomies (van der Ploeg, 1989: 150; 1994: 29; Leeuwis, 1993: 80, 199 and previous paper). The failure of most focus groups to identify the majority of styles does not mean that the styles do not exist, but it does mean that they are not necessarily apparent to all farmers. Clearly, in this case, the taxonomy is done by the researchers, not the participants, although based on the qualitative data provided by focus group participants. However, it is also clear that farmers do make social judgements about other farmers and can relate to the farming style concept when it is explained to them and/or when examples are given.

There are differences between farmers in the styles they identify, and the words they use to describe those styles. Some labels were used by different farmers to mean completely different things. This indicates that differences between (styles of) farmers may mean that there is not a common language. In fact, this is implicit within the styles concept anyway. At a theoretical level, since a style is possibly a subcultural grouping with its own socially constructed reality, styles potentially could include a style-specific language. Since the range of styles may reflect class (and education) differences, language differences are likely to be expected. Research methods that rely excessively on the use of 'voice' and do not seek to interpret further what is said, have limited applicability because the words do not have a shared meaning. The full meaning can only be gauged by developing an understanding of the words used within the perspective of that style.

The frequency of identification of styles that approximate extension adopter categories, and the use of words emanating from extension discourse, reveals the hegemonic influence of extension science. Extension science language has pervaded farming discourse to such an extent that some/many farmers are incapable of identifying their own socially constructed categories of farmers, but see social diversity in agriculture in terms of these adopter categories. Adopter categories, therefore, and extension language in general, have become a legitimate part of the social discourse of farmers.

Because farmers describe other farmers in disparaging terms, the descriptions of styles provided by farmers are greatly affected by social desirability response bias. The portraits that are used have to be constructed or word crafted by the researchers. It is not possible to utilise

farmers' descriptions, however, even when presented as portraits, they still potentially embody considerable social desirability. Not all styles can be easily described as a portrait in a way that meaningfully preserves the differences between styles.

The disagreement within focus groups about the placement of some styles (cards) in the themeing process raises the question of whether styles need be mutually exclusive categories, or whether they exist as dimensions in a multi-dimensional space. Leeuwis (1993) and van der Ploeg would argue that the styles are real, tangible and discretely identifiable. This research would seem to question this, and suggests that styles are more heuristic ideal types that farmers approximate and/or draw on as part of a 'cultural repertoire' (van der Ploeg, 1993) they use to construct – albeit subconsciously – their farm practice (see Howden & Vanclay, 1998).

## **Conclusion**

While there are flaws in the practical application of van der Ploeg's conceptualisation of farming styles, in the Leeuwis methodology, and indeed in our own methodology, we would argue that the concept of farming styles is potentially very useful. Utilising farming styles as a form of social classification would be a more useful typology than other classifications of farmers that are usually made, such as adoption status. As the title of this paper suggests, utilising farming styles to consider social diversity in agriculture is akin to working with the grain (in the carpentry sense), and represents the utilisation of the social constructions that exist (an emic classification), rather than imposing an external structural

approach (an etic classification).<sup>1</sup> Despite our acceptance of the existence of farming styles – as ideal types – it is our assessment that the concept is not well defined, and that there are serious difficulties in its implementation.

Ultimately we hope to improve the concept and utilise it to practical benefit in understanding the diversity amongst Australian grain growers and the way in which different groups of farmers relate to the research outputs of agricultural science and extension. Potentially, research organisations such as the Cooperative Research Centre for Weed Management Systems could tailor its research and extension programs to work with the different types of farmers to assist in the transition to a more sustainable agriculture.

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<sup>1</sup> R.M. Keesing (1976: 173), in an introductory anthropology textbook, describes emic and etic thus: 'An emic analysis of behaviour takes an actor's eye view and analyses the stream of events in terms of its internal structure ... [This can be contrasted] with etic analysis, where the observer uses a descriptive notation derived from comparative study and describes the behaviour from this external perspective. (The two are not incompatible, but can be used at different stages for different purposes ... ).'



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