

Milking more than profit:

Life satisfaction on Wisconsin dairy farms



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Milking More Than Profit: Life Satisfaction on Wisconsin Dairy Farms

Sarah Lloyd, Michael Bell, Tom Kriegl, Steve Stevenson

Introduction

Wisconsin is “America’s dairyland,” we often hear. Wisconsin leads the nation in the number of dairy farms, with 14,265 reported by the Wisconsin Agricultural Statistics Service as of April 2007. California now leads the nation in the volume of milk production but has only around 2,400 dairy farms. Looking over the landscape, the familiar presence of dairy farms somehow just says “Wisconsin.”

Nevertheless, the number of dairy farms in Wisconsin has been declining steadily for years. The Wisconsin Department of Agriculture, Trade and Consumer Protection’s 2004 Dairy Producer Survey indicates that, by 2009, Wisconsin could see the number of dairy herds decrease to 11,300—a 21% decline (NASS 2004). Although at this writing Wisconsin continues to lead the nation in cheese production, this distinction will soon pass over to California as well. Considering the historically central role that dairy has played in the state, the continued drop in the number of dairy farms has important implications for the economic, ecological, and social sustainability of communities, families, and individuals in Wisconsin.

To enhance the vitality of Wisconsin’s dairy industry, it is important to pay attention to all three of these aspects of sustainability: the economic, the ecological, and the social, or what is sometimes called the *triple bottom line*. Often, economic matters take precedence in planning, to the neglect of ecological and social considerations. But no economic arrangement can persist without sustaining its ecological and social foundations as well. We need to keep our eye on all three bottom lines in dairy farming.

But this isn’t easy, especially when it comes to defining and measuring the elusive social bottom line. The life satisfaction experienced by Wisconsin dairy farmers and farm families is one important dimension of this social bottom line. Without offering a satisfying life, even the most profitable and ecologically sound forms of

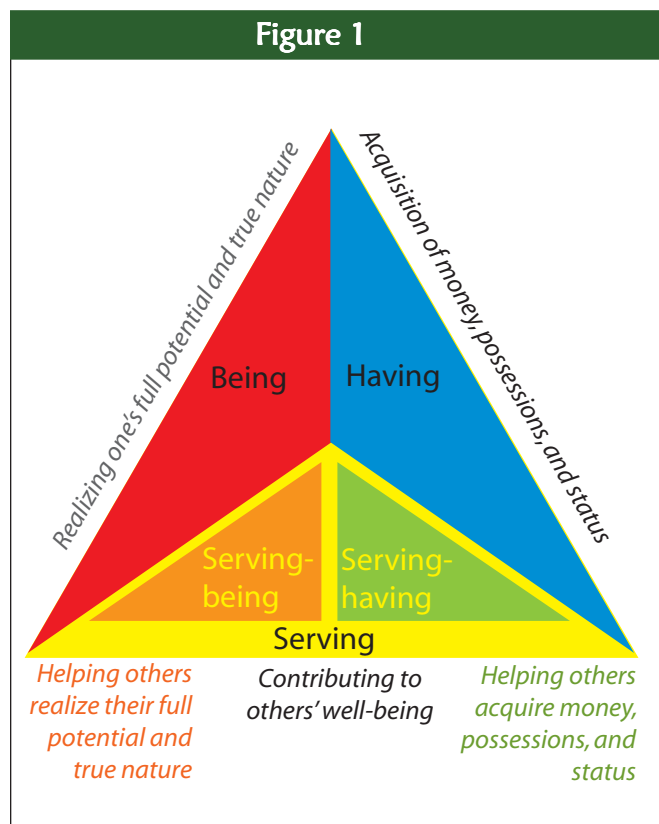
agriculture will not be sustainable. Farmers and policymakers need to consider life satisfaction, in addition to economic and ecological goals, when making decisions about farming and farm systems.

But what is life satisfaction, and what difference does it make in the practical world of everyday life on the farm? How can we fruitfully study something so hard to pin down?

The 2006 Life Satisfaction and Dairy Farming survey of 1,300 Wisconsin dairy farmers sought to evaluate this vital aspect of the social bottom line. We report here on the results of this survey, which looked at life satisfaction across the diverse range of dairy farm systems in the state. Commonly, surveys ask people to rate the level of their life satisfaction, often using the phrase “quality of life.” This is a basic and useful measure, a deeper way of asking someone “how are you doing?” But quality of life is defined differently from person to person and farm to farm. There are many aspects of human satisfaction with life. Two people may be equally satisfied with their lives but give different weight to different criteria in reaching this conclusion. Life satisfaction on one dairy farm could depend largely on financial security, while another farm may place more importance on working together as a family. In other words, there are many *qualities* to the quality of life.



In the 2006 Life Satisfaction and Dairy Farming survey, we asked farmers about both their overall level of life satisfaction—their *quality* of life—and the criteria they used to make their assessments—their *qualities* of life. In order to get at these criteria, we asked farmers to weigh the importance of three basic qualities—*having*, *being*, and *servicing*—using a series of statements on each one (Appendix A). We’ll take up in more detail what we mean by these terms later on in the report, but Figure 1 provides a quick overview.



Key findings

- 1. The level of life satisfaction varied by dairy farm system.** Overall satisfaction was consistently highest on large confinement and managed grazing farms. Satisfaction was consistently lowest on small confinement farms and on farms using a non-intensive pasture system. (These farm systems are defined on page 3.)
- 2. Farmers using different dairy farm systems evaluated life satisfaction differently.** Although large confinement and managed grazing farms shared a high level of satisfaction, managed grazing farms

emphasized *being* more than *having* and emphasized the being-related aspects of *servicing*. Large confinement farmers emphasized the importance of both *having* and *being* equally, and both *having*- and *being*-related aspects of *servicing*. Small confinement farmers gave special weight to *having* over *being* and *servicing*. And, relative to other dairy farmers, those using non-intensive pasture systems gave lower emphasis to all three basic qualities of life.

3. Men and women on dairy farms used different criteria for evaluating life satisfaction.

While men and women in the survey expressed similar levels of life satisfaction, women placed relatively greater emphasis on *being* and on the *being*-related aspects of *servicing*.

4. Differences in life satisfaction between dairy farms were not just a matter of money.

The patterns in both the level of life satisfaction and the qualities of life that these dairy farmers experienced did not correspond to differences in farm income and other aspects of farm finances.

Much of the research and expertise available to dairy farmers is targeted at the goals of maximized profits and production volumes. There is less information available about satisfaction with farming as a way of life. Understanding how life satisfaction and its qualities vary among farm systems can both help farmers choose the manner of farming most suited to them and their goals, and help policy makers create the conditions that allow these diverse qualities to flourish.

The 2006 Life Satisfaction and Dairy Farming Survey

What factors influence increased life satisfaction on different dairy farms? Two Wisconsin studies from the late 1990s provide conflicting answers to this question. The 1999 Dairy Modernization Project found that expansion and modernization increased satisfaction, while the 1997 Dairy Farm Poll found that pasture-based farmers who frequently moved their cows were more satisfied. These are seemingly opposite results, and the two analyses did not evaluate whether two equally satisfied farmers may be satisfied for different

Table 1: Four categories of dairy farm systems in Wisconsin

Farm system (number of respondents to survey)	Labor in 2005	Feed and forage	Milking setup (percent using stanchion or tie-stall barn)	Average herd size in survey
Non-intensive pasture (45)	<ul style="list-style-type: none"> • Primarily family labor • Average of .08 employees 	<ul style="list-style-type: none"> • Move cows once a week or less frequently to fresh pasture • Rely on stored feed in cold part of year • Generally obtain little feed from pasture 	93%	37
Managed grazing (100)	<ul style="list-style-type: none"> • Primarily family labor • Average of .29 employees 	<ul style="list-style-type: none"> • Move cows more than once a week to fresh pasture • Rely on stored feed in cold part of year • Generally obtain up to 50% of forage from pasture 	61%	61
Small confinement (268)	<ul style="list-style-type: none"> • Primarily family labor • Average of .24 employees 	<ul style="list-style-type: none"> • Rely primarily on stored feed 	88%	62
Large confinement (150)	<ul style="list-style-type: none"> • Primarily hired labor • Average of 10.6 employees 	<ul style="list-style-type: none"> • Rely primarily on stored feed 	5%	691

reasons. For a more complete conversation on past research, see Appendix B.

We designed the 2006 Life Satisfaction and Dairy Farming Survey to try to resolve the discrepancies from previous studies and deepen our understanding of the qualities of farm life. In the winter and spring of 2006, we conducted a mail survey of 1,300 dairy farm households in Wisconsin. To prepare for the survey, we conducted focus group sessions with farmers using different dairy systems. We attempted to represent the range of dairy farm systems prevalent in Wisconsin and reach both men and women on the farms. We received 570 responses, which represents a 44 percent response rate. Thirty-four percent of these respondents were female.

We asked respondents to self-assign themselves to one of three dairy systems: managed grazing, small to mid-size confinement, and large confinement. The survey results indicated a marked difference between what we came to call “non-intensive pasture” and “managed grazing” operations. We therefore grouped our respondents into four categories described in Table 1. In order to be considered a managed grazing operation, a farm needed to move its cows more than once a week, although most farms in this category moved cows up to twice a day. While both the large and small confinement operations relied primarily on stored feed, the large confinement farms stood out in their reliance on hired labor.

We over-sampled grazing farms and large confinement farms in order to have enough respondents in each

category to be able to assess their life satisfaction. Thus, the percentages of farms in the four categories do not reflect their overall prevalence in Wisconsin today.

Satisfaction with quality of life

When sorted by farm system, the survey responses showed a consistent pattern. Repeatedly, managed graziers and large confinement operators expressed similarly higher levels of satisfaction than small confinement and non-intensive pasture operators. This pattern extended throughout all our measures of general quality of life and life satisfaction, as well as measures of satisfaction with farming, farm work, and household tasks.

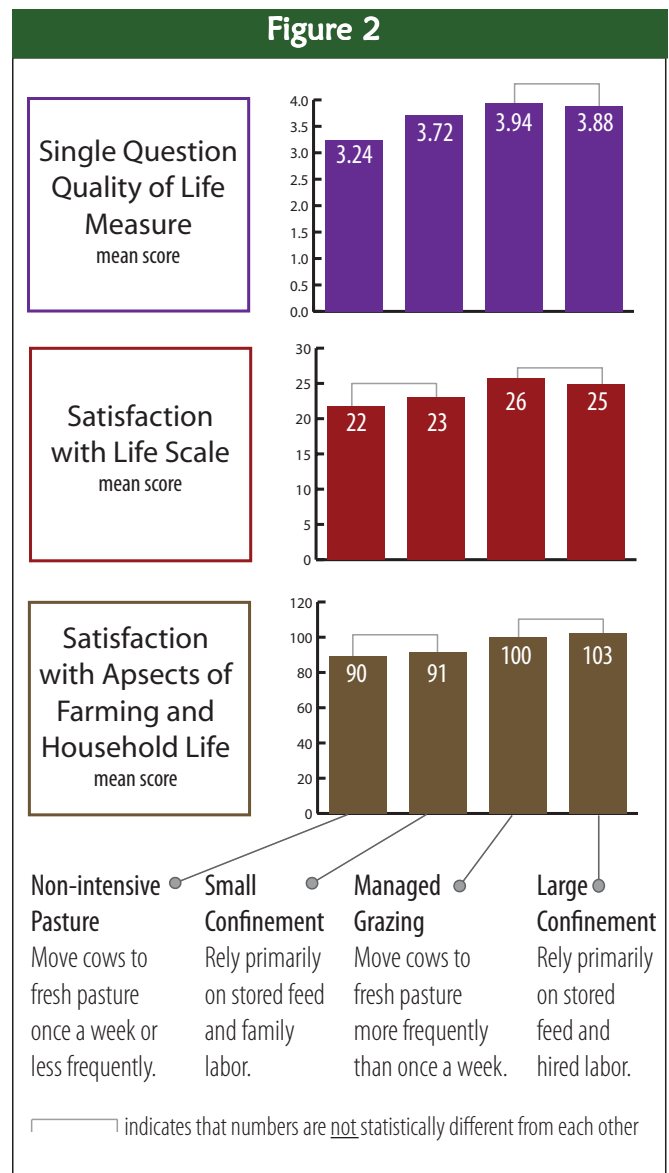
For example, when asked, “In general, how satisfied are you with your family’s quality of life?”—a standard question asked by surveys such as ours—managed graziers and large confinement operators reported significantly greater satisfaction levels than the other two systems. Differences in the responses from the managed graziers and large confinement operators were small and statistically equivalent to each other, averaging 3.94 and 3.88, respectively, on a 1 to 5 scale from very dissatisfied to very satisfied. In contrast, responses averaged 3.24 for non-intensive pasture farmers and 3.72 for small confinement farmers (Figure 2, top graph).

Throughout this report, the differences in some scores may not look large on the graphs, but they are statistically significant. This means that mathematical tests based on the number of responses show that the differences between two scores are big enough to rule out that they could be explained by chance or a sampling error. Scores that are not significantly different from each other are connected with gray lines in the graphs. When the differences between scores are not statistically significant, they may be numerically different but are treated as being the same because chance and error may explain the discrepancy.¹

This pattern repeats throughout the survey. Our survey included the five-question Satisfaction With Life Scale (SWLS), which is a standard measure of life satisfaction. The SWLS asks respondents to agree or disagree with the following statements on a 7-point scale, with 1 being “strongly disagree” and 7 being “strongly agree”:

- In most ways my life is close to my ideal.
- The conditions of my life are excellent.
- I am satisfied with my life.
- So far, I have gotten the important things I want in life.
- If I could live my life over, I would change almost nothing.

We saw the same pattern of response on all five items. Managed graziers and large confinement farmers were significantly more satisfied than farmers using the other two systems, but not significantly different from each other. The middle graph in Figure 2 shows the combined results for all five items in the SWLS.



¹ In this report, we measure statistical significance at what statisticians call a p-value of less than 0.05. Statistics were calculated on paired comparisons. For more information on the statistical analysis, contact the authors.

We also asked a series of questions about satisfaction with different aspects of farming and farm life, including household tasks and responsibilities. This included time with spouse and family, herd health, money for family living, milk production, ability to be a steward of the land, and a number of other items. Once again, managed graziers and large confinement operators expressed similar levels of satisfaction that were significantly higher than those reported by small confinement and non-intensive pasture operators. The bottom graph in Figure 2 shows the results from this series of questions in the form of a scale derived from the sum of these individual items.



As all three measurements of life satisfaction—the standard single question quality of life measure, the five-item SWLS, and our questions about satisfaction with farming and household life—yield the same pattern of results, we are confident in the strength of this pattern.

Understanding the qualities of life

The data presented above shows that managed graziers and large confinement operators are, on average, the most satisfied dairy farmers in Wisconsin. But is their

perception of satisfaction the same? And how do we interpret the relatively lower satisfaction of non-intensive pasture and small confinement dairy farmers? Given that their farm operations differ, their lives probably do as well. As we began to put the survey together, we became suspicious that the differences in farmers' lives probably influenced their perceptions of life satisfaction.

Our focus group conversations led us to believe that the well-known phrase "quality of life" had several dimensions or *qualities* which we termed *having*, *being*, and *servicing*. We further hypothesized that *servicing* satisfaction

Having and being: Where do these ideas come from?

Social scientists distinguish between "hedonic" and "eudaimonic" conceptions of quality of life or life satisfaction (Ryan and Deci 2001). "Hedonic" satisfaction refers to the pursuit of pleasure or happiness and is typically associated with the acquisition of money, possessions, and social status. Eudaimonic satisfaction emphasizes the full realization of one's potential, and living and acting in sync with one's true nature or *daimon* (Waterman 1993). It is often seen in opposition to hedonic satisfaction and is process-based. Philosophers dating back to Aristotle worked on these concepts. For our survey, we translated hedonic satisfaction into what we termed *having* and eudaimonic satisfaction into what we termed *being*, in line with some previous research. *Servicing* is a quality that we picked up on in our focus groups with farmers, and it describes the idea that one's own satisfaction depends in part on relationships and contributing to others' well-being. We speculated that *servicing* satisfaction would be manifested not only in relations with other people, but also with animals and the land.

Common descriptions of hedonic satisfaction—or *having*—veer back and forth between pleasure and acquisition, and seem to imply that pleasure comes from acquisition and not from the process-based pursuits of eudaimonic satisfaction, or *being*. It seemed to us that there can be pleasure in relationships and the process of realizing one's potential. To measure this we asked separate questions about the pleasure that *having*, *being*, and *servicing* may or may not yield.

should be divided into the dimensions of *serv-ing-having* and *serv-ing-being*, resulting in three qualities of life with four dimensions (Figure 1, page 2).

Our conversations with farmers also indicated that people involved with the different dairy production systems, and men and women within these systems, differ in the qualities of life that they consider important. Survey results confirmed our suspicions.

The definitions of *having* and *being* trace back to Aristotle, and *serv-ing* is our measure of social relations and satisfaction (see box on page 5). *Having* is associated with the acquisition of money and possessions and the achievement of social status. For example, a farmer could find satisfaction in having the newest equipment. *Being* is associated with realizing one’s potential, and living and acting in sync with one’s true nature. A farmer may find satisfaction in doing meaningful things. *Serv-ing* is associated with contributing to the life satisfaction of others, including animals and the land. We broke *serv-ing* into two dimensions, *serv-ing-having* and *serv-ing-being*, corresponding with our understanding of *having* and

being. *Serv-ing-having* satisfaction could come from producing food for hungry people or jobs for the local economy. *Serv-ing-being* satisfaction could come from being a steward of the land. See Appendix A for the full 24-statement scale used in the survey. The box below provides some examples of the qualities of life.

Established definitions of *having* imply that happiness comes from the acquisition of status and material possessions. We hypothesized that pleasure and happiness can be associated with *having*, *being*, and *serv-ing*, and not *having* alone. To measure this, the survey asked respondents to rate separately the importance and the enjoyment they found in each item in our 24-statement scale.

Dairy systems and the qualities of life

Our survey results from the *having-being-serv-ing* scale show that dairy farmers do indeed differ in how they assess satisfaction in life, even when their overall levels of satisfaction are similar. In some cases, their answers confound common presumptions about the farmers

In their own words: What Wisconsin dairy farmers like about farming

A sampling of farmer responses to focus groups and open-ended questions on the 2006 Life Satisfaction Survey:

Having

- “owning my assets”
- “started with nothing, became successful”
- “income”
- “success (profit)”
- “financial profitability”
- “raising 200+ bushels of corn/acre”
- “you can say ‘this is mine’”
- “having a lot of land to call your own”
- “having an eye-catching farm and impressive machinery”
- “when the milk price is at \$16.00 or above”

Being

- “having my wife and best friend to work with and share daily life”
- “Cold crisp clear night looking up and seeing all the stars and moon. Then watching cows travel in moonlight to a new round bale I just put out.”

- “adventure of each and every new day”
- “the daily challenge of working with a dairy herd”
- “working together as a family/husband-wife toward goals”
- “not just a way to make a living, but a way of life”
- “working outdoors and with animals in an endeavor that is basic to life’s needs and is meaningful”

Serv-ing

- “I love the earth; I think it’s my responsibility to take care of it the best I can.”
- “raising our children to know the value of life, animals, and people”
- “the care of the land and animals”
- “being stewards of the land”
- “produce a product that has value to society”
- “taking care of the animals’ needs”
- “producing food and providing positive economic benefit to our community”

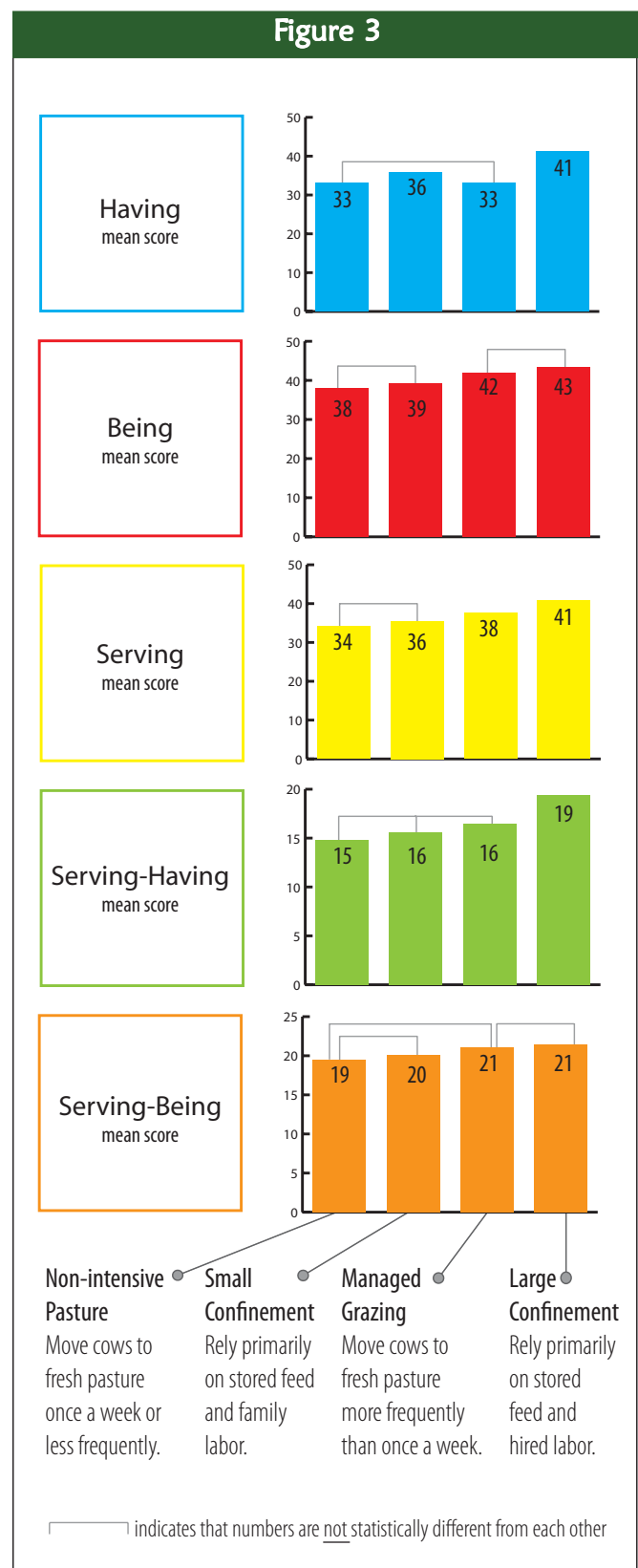
involved in different dairy farm systems, but ultimately they do so in understandable ways. The answers also demonstrate that, while personal wealth and income are important to many dairy farmers' sense of life satisfaction, the full picture of the meaning they find in their lives is considerably more complex.

With regard to *having*, the results show that graziers place significantly less weight on the importance of *having* than confinement farmers do (Figure 3). The farmers involved in the most capital-intensive systems of dairying place greater value in the sense of *having*. These findings follow what most people in the dairying industry would probably guess.

One might also guess that those who emphasize *being* would give less emphasis to *having*. In the case of managed graziers, this in fact turned out to be the case. But large confinement farmers and managed graziers assigned the same importance to *being*, while small confinement and non-intensive pasture operators scored the lowest in this aspect of life satisfaction. Thus, in the area of *being*, the pattern from the earlier parts of the survey manifested itself again, with managed graziers and large confinement farmers scoring significantly higher than farmers using the other two systems.

With regard to *servicing*, this familiar pattern repeated again. The managed graziers and large confinement farmers gave greater importance to *servicing* than the non-intensive pasture and small confinement farmers. Interestingly, and not surprisingly, the pattern of responses to *servicing-having* and *servicing-being* closely mirrored those for *having* and *being*. Large confinement farmers emphasized both *servicing-having* and *servicing-being*, while managed graziers gave less emphasis to *servicing-having* than they did to *servicing-being*. This implies that farmers think about their own life satisfaction and that of others with the same overall perspective.

While Figure 3 shows differences in the **importance** that dairy farmers ascribed to *having*, *being*, and *servicing*, the survey asked farmers about their enjoyment of these qualities, as well. Enjoyment followed a pattern similar to importance. The difference between enjoyment of an aspect or concept and its importance were slight and not statistically significant, although generally all farmers' enjoyment scores were marginally higher (but again not



significantly different) than their importance scores. This close correspondence between importance and enjoyment suggests that there can indeed be pleasure in *being*

and in *servicing* as well as *having*, as we hypothesized. The standard association of pleasure only with *having* does not hold up here. Furthermore, these results suggest that farmers (and probably most people) enjoy what they consider important and assign importance to the things they enjoy.

Different farm experiences of women and men

Based on our *having*, *being*, and *servicing* measures, our survey indicated that Wisconsin farmers managing different dairy farm systems found life satisfaction in different ways. Our survey also showed that men and women within these farm systems emphasized different qualities of life.

It comes as no surprise that, on Wisconsin dairy farms, household and farm tasks are divided strongly along gender lines. Women are primarily responsible for the

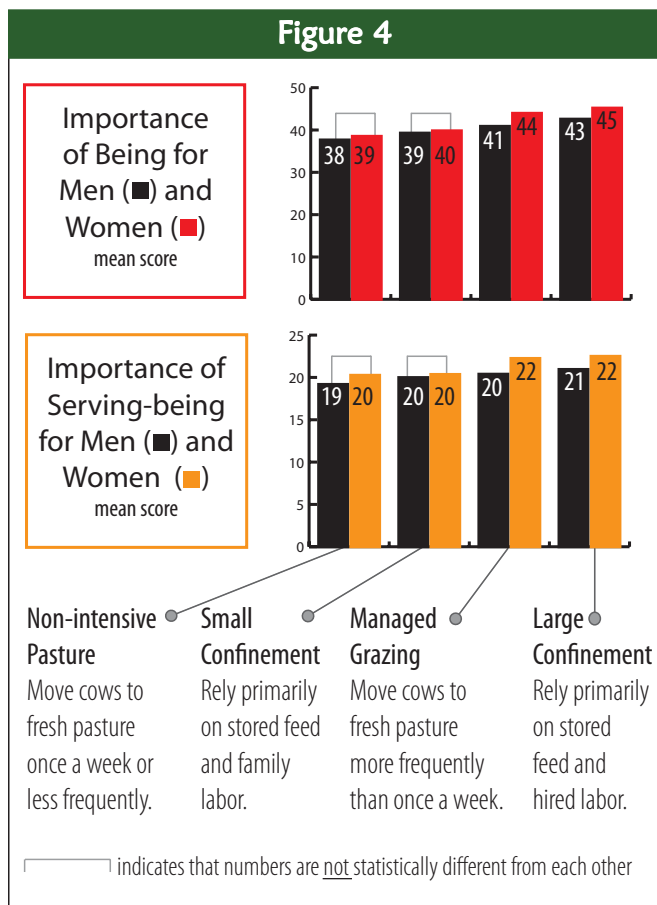
day-to-day household and family tasks, such as caring for children, cooking and cleaning, and shopping for the household. Men are primarily responsible for the everyday farm operations such as milking, feeding, hauling manure, and planting crops. While of course there is some sharing and overlap, Wisconsin dairy farm families generally divide their work along “traditional” gender lines². In addition to these differences in work on the farm, we found that men and women differ in their perceptions of life satisfaction.

Women from managed grazing and large confinement operations scored numerically higher than their male counterparts on the standard single question on quality of life and the Satisfaction With Life Scale; however, these differences were not statistically significant.³ Similarly, there was no significant difference between men and women in these systems with regard to the *having* quality of life. However, women and men from managed grazing and large confinement operations did differ significantly in the importance of *being* (Figure 4). With regard to *servicing-having* and *servicing-being*, women from both large confinement and managed grazing operations scored significantly higher than their male counterparts in the importance of *servicing-being*.

While the differences between men and women and the nature of their roles on and off the farm may impact their life satisfaction differently, this factor is often overlooked. As dairy farming changes and evolves in Wisconsin, it is important to think about the implications for both men and women. Family labor demands may change if farms hire more labor or reduce row crops and inputs. Yet these changes may affect women less, since the farm household tasks for which they are most often responsible may not diminish (Meares 1997).

Life satisfaction and financial status

At the outset of this report, we emphasized the importance of a triple bottom line including the economic, ecological, and social considerations of life. But how do the economic and social considerations



² This is shown in another portion of our survey that we do not report here.

³ Only one response per household was gathered with the survey. The comparison between men and women is not a comparison between a man and woman from the same farm but between men and women representing similar dairy systems.

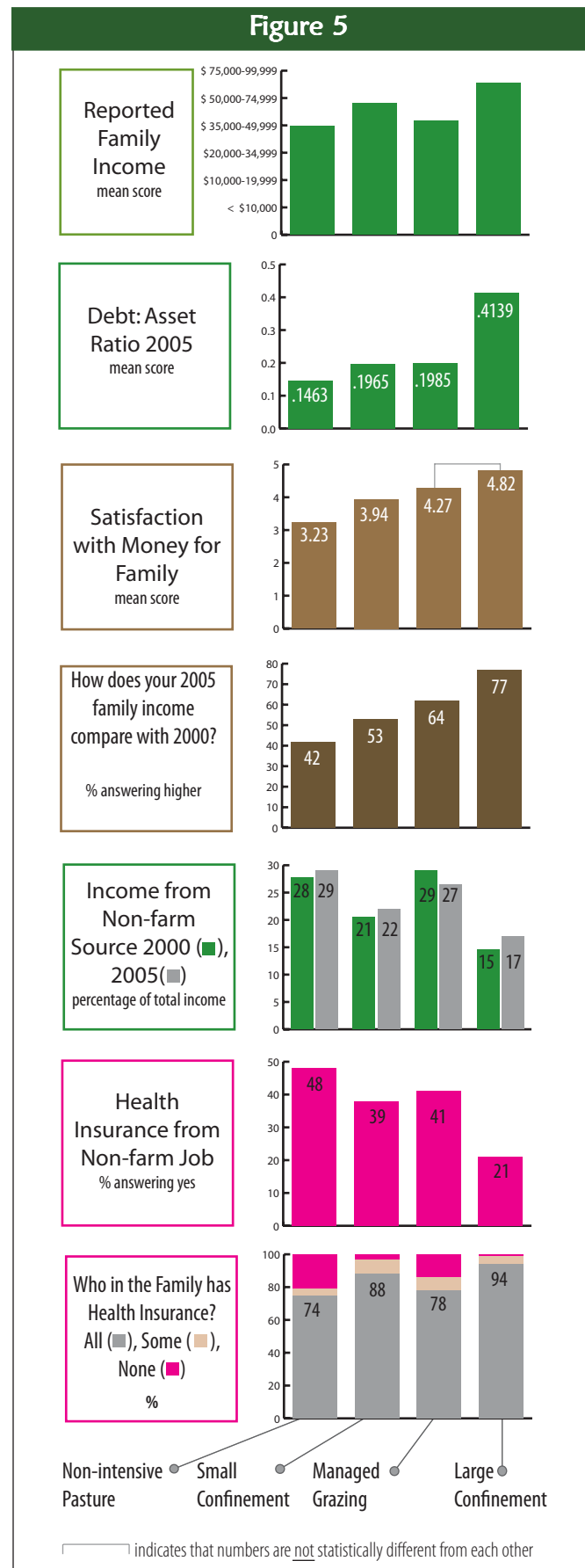
interact? The results from the Life Satisfaction And Dairy Farming Survey showed that farmers from managed grazing operations placed greater importance on *being* than *having*, and large confinement farmers equally emphasized both *being* and *having*, and they had corresponding responses for *servicing-having* and *servicing-being*. These findings indicate that the life satisfaction of dairy farmers depends on more than financial matters. Figure 3 on page 7 also shows that farmers from all dairy systems place more emphasis on *being* versus *having*.

Could financial success indirectly support the life satisfaction of dairy farmers? The most satisfied farmers might be the best off financially, even if they do not necessarily value *having* over *being*. Perhaps money really is the main factor in satisfaction, when we consider its potential indirect influence.

This apparently is not the case, at least on Wisconsin dairy farms. Our results show no direct correspondence between life satisfaction and financial status measures. In Figure 5, we see that both large and small confinement operators reported the highest family farm and non-farm income in 2005.⁴ In contrast, large confinement operators scored high on our life satisfaction measures, while small confinement operators had lower scores. If there was a direct link between quality of life and financial status, then we would expect to see the same pattern in both measures.

We can also look at the overall assets and debts of the survey respondents. Confinement operators reported higher assets, with large confinement farms reporting considerably higher assets than all other systems. But it should be noted that large operators also reported a considerably larger debt and debt-asset ratio (Figure 5). The high debts and debt-asset ratio reported by the large confinement operators do not appear to drag down their overall life satisfaction.

Non-farm work and health insurance and the interaction between them also impact farm families' satisfaction and security. Let's address non-farm work first. Figure 5 shows that farmers using managed grazing and non-intensive pasture systems reported a higher percentage of income from non-farm sources than small and large



⁴ Please note that the income, assets, and debt amounts are self-reported and may not be entirely reliable because of the different ways of figuring farm and household income and the variations in how respondents value assets.

confinement operators. But as we learned earlier, managed graziers were more content despite their similar level of non-farm income.

Farmers often find it difficult to obtain health insurance for all the members of their families. Thus, having health insurance for the whole family could presumably be associated with farmers' life satisfaction. While the importance of health insurance is something that few farmers would disagree with, we found that having health insurance did not correspond with dairy farmers' life satisfaction.

Managed graziers reported high life satisfaction scores despite relatively low levels of health insurance coverage for their family members.

Non-farm work is an important source of health care benefits for farm families. Not surprisingly, large and small confinement operators were most likely to report that all of their family members were covered by health insurance. They were least likely to report that this insurance comes from a non-farm job—also not surprising, as they rely least on non-farm work. But managed graziers defied expectations here. Although their level of non-farm work was similar to that of farmers using low-intensity pasture systems, managed graziers were less likely to obtain health insurance from non-farm jobs.

We also measured satisfaction with money available for family living, and despite differences in family income, non-farm work, and health insurance coverage, managed graziers and large confinement operators were equally satisfied with money for family living. Once again, we see the pattern of managed graziers and large confinement farmers showing similarly higher results.

There is a slight wrinkle, though. In Figure 5, we see that managed graziers and large confinement operators were more likely to report increased family income when comparing 2005 to 2000, in this case mirroring the life satisfaction and quality of life results. Perhaps,



then, it is not overall financial status that shapes farmers' sense of well-being, but their relative year-to-year income instead. When things are going better financially, it could be that a dairy farmer's assessment of satisfaction and the qualities of life is also more positive.

There are several caveats to this conclusion, however. If it is relative income that matters and not absolute income, then we would expect to see historical changes in corresponding scores for life satisfaction and the qualities of life. Furthermore, there may be a base level of income needed to meet basic needs and reach certain satisfaction levels. As income goes above that level, each increase may be less important to life satisfaction. We do know that milk prices in Wisconsin were higher in 2005 compared with 2000. However, we do not have information from the survey to be able to draw conclusions about changes in life satisfaction over this time period.

Two additional observations support the independence of life satisfaction and relative income. First, in our study, large confinement farmers and managed graziers had different patterns of responses to their assessments of the qualities of life. The large confinement farmers gave substantially greater importance to *having*, while farmers from both systems attributed similar importance to *being*. Thus, the importance of these

qualities of life does not appear to be predicted by financial status, even considering changes in relative income. Second, measures of material well-being in the United States from 1946 to 1991 suggest that there is not a direct relationship between increasing personal wealth and happiness. On the contrary, as material well-being has increased, happiness on average has decreased (Frey and Stutzer 2002).

As the old cliché suggests, the evidence from both Wisconsin dairy farms and elsewhere is that money alone does not buy happiness. Money is not the only bottom line.

What we have learned

The results of the 2006 Life Satisfaction and Dairy Farming Survey clearly show that farmers from different dairy farm systems experience quality of life and life satisfaction differently. Men and women also have different perceptions of quality of life. Researchers and policy makers need to recognize that quality of life includes the *qualities of having, being and serving*, and these qualities differ both between farms and among members of the same farm.

We found that managed graziers and operators of large confinement farms reported the highest quality of life or life satisfaction on a number of measures. However, it is important to note that the reasons for the two groups' high level of satisfaction differed. Large confinement operators scored highest in terms of the importance of *having*, while managed graziers scored low on this quality of life. Both large confinement operators and managed graziers attributed a high level of importance to *being*. In other words, both large confinement operators and managed graziers considered it important to achieve their full

potential and true nature, but large confinement operators placed more importance on acquiring money, possessions, and status. *Serving* others is also important to many farmers' own sense of satisfaction. In all farm systems, we generally saw a close correlation between what people thought was important and what they found enjoyable, and between how they evaluated the qualities of their own lives and the lives of others.

People considering starting a dairy farm or switching to a different dairy farm system need to include life satisfaction goals in their decision-making process. How do the aspects of satisfaction expressed by farmers using different dairy systems fit with their own life goals and quality of life preferences?

Agricultural research and policy is often focused solely on maximizing production volumes and other economic concerns. In addition, ecological land use and agricultural practices have received increased attention in the academic and policy worlds. We hope this research helps expand the conversation to include social considerations and their implications for dairy farming in Wisconsin. These economic, ecological, and social aspects make up a triple bottom-line. Attention to this triple bottom line of economic, ecological, and social issues and their interactions is key to the future viability of dairy farming in Wisconsin, and to the health of families, communities, and the land.



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Appendix A: Scale for measuring qualities of life

The 2006 Life Satisfaction and Dairy Farming Survey included a series of eight statements for each quality we defined (*having*, *servicing* and *being*). The eight statements for *servicing* included four measuring *servicing-having* and four measuring *servicing-being*. Respondents were asked to score each statement on a scale of 1 to 7 for both importance and enjoyment. Our full 24-statement scale is printed below. Statistical tests using factor analysis show that the scales load to primarily one factor. Additionally, when calculating the Cronbach's alpha to test for internal coherence we find that all three scales—*having*, *being*, and *servicing*—have Cronbach's alphas of 0.77 or higher.

I find it important to... I find it enjoyable to...

1 = not important/enjoyable at all 7 = very important/enjoyable

Statement	Quality
Earn money	Having
Receive recognition from other people	Having
Have a large home	Having
Maximize the production volume of milk from my farm	Having
Meet income goals I have for myself and for my farm	Having
Meet production goals I have for myself and for my farm	Having
Have the newest equipment	Having
Do better than other people	Having
Have challenging problems to work on	Being
Be creative in my work	Being
Have outside interests and hobbies	Being
Gain new experiences	Being
Have absorbing work	Being
Have a variety of tasks to work on	Being
Do things that are meaningful	Being
Do beautiful work	Being
Produce food for hungry people in the world	Servicing-(having)
Provide jobs for others	Servicing-(having)
Contribute to the country's economic growth	Servicing-(having)
Keep food affordable for consumers	Servicing-(having)
Participate in community events	Servicing-(being)
Maintain my family in farming	Servicing-(being)
Be a steward of the land	Servicing-(being)
Be a giving person	Servicing-(being)

Appendix B: Earlier studies measuring life satisfaction

Previous studies asked Wisconsin dairy farmers about life satisfaction, with conflicting results. The 1999 Dairy Modernization Project, targeted at farm operators who had recently expanded or modernized, found that respondents reported significantly greater satisfaction as herd size and facility expansion increased. (Bewley et al. 2001). In other words, this survey suggested that modernizing and enlarging a dairy farm increases satisfaction, which aligns with much conventional wisdom.

However, the Dairy Modernization Survey did not differentiate between pasture-based and confinement systems. The 1997 Dairy Farm Poll made this distinction and found that graziers who frequently move their cows were more satisfied than confinement operators and farmers who use pasture less intensively (Ostrom and Jackson-Smith 2000). The results of the Dairy Farm Poll implied a strikingly different conclusion than the Dairy Modernization Survey: the confinement farmers who are presumably modernizing and enlarging their operations are not the most satisfied.

What might account for these different results? The data in the surveys were not comparable, which may explain part of the discrepancy. Many graziers who are expanding their herds and modernizing their facilities may well be among the satisfied farmers in the Dairy Modernization Survey. The Dairy Farm Poll did not differentiate between large and small confinement operations, and there may be internal differences between confinement systems as there are between intensive graziers and less intensive ones. Plus, times may have changed. A 2006 follow-up to the 1999 Dairy Modernization Survey did not find the same clear association of expansion and modernization with increased satisfaction (Brannstrom 2006). Along with these issues, two equally satisfied farmers may be satisfied for different reasons. In other words, they may assess quality of life and life's *qualities* differently.

