

# Introduction

Within the last decade, farmers and consumers have had a growing interest in organic dairy production. As herd sizes continue to polarize and milk prices become more volatile, many small farmers are turning to niche markets such as organic production to remain viable.

On June 17, 2010, the United States Department of Agriculture (USDA) National Organic Program (NOP) put into effect a pasture rule for organic ruminants. Organic dairy cattle at least six months of age must receive 30 percent or more of their dry matter intake (DMI) from pasture during the grazing season, which must be at least 120 days long (Jarvis, 2010).

The integration of pasture into feeding regimes however, can create challenges for farmers when trying to balance dairy rations. Harsh winters, limited land bases, drought, and many other factors prevent complete reliance on pasture for Wisconsin dairy cattle, requiring farmers to find additional feed sources for all or part of the year. This study is a part of a larger project designed to investigate supplemental feeding practices on both organic and conventional grazing dairy farms to develop outreach materials and decision aids for farmers, Extension agents, and other agricultural professionals as they assist organic, transition, and other grazing dairy producers with farm planning and risk management. Our specific purpose of this study was to characterize Wisconsin certified organic dairy farms and evaluate their feeding regimes for dairy cattle in 2010.

# Materials & Methods

## Establishing the Organic (ORG) Sampling Frame

- Crosslisted 2 directories obtained from the State of Wisconsin's Department of Agriculture Trade and Consumer Protection (WDATCP)
  - 2009 Wisconsin Active Dairy Producers list
  - Wisconsin Certified Organic Producers list

## Sampling

- All farms received a mailing inviting them to participate in the project.
- Willing farmers were surveyed on-farm, face-to-face, with a traditional paper questionnaire (Figure 1), by one of the project's 2 graduate students between October 2010 and January 2012. (See Figure 2 for their geographic distribution.).

## The Survey Tool

- The survey was 44 pages long and contained nine sections:
  - A. Farm Business Structure and Decision Makers
  - B. People on the Farm
  - C. Dairy Herd and Management
  - D. Feed Management
  - E. Pasture Management
  - F. Land Management and Cropping Operation
  - G. Manure and Nutrient Management
  - H. (removed from survey)
  - I. Economic Information
  - J. Assessment of Farm Management and Satisfaction

## Data Analysis

- Data was analyzed using Microsoft Excel.

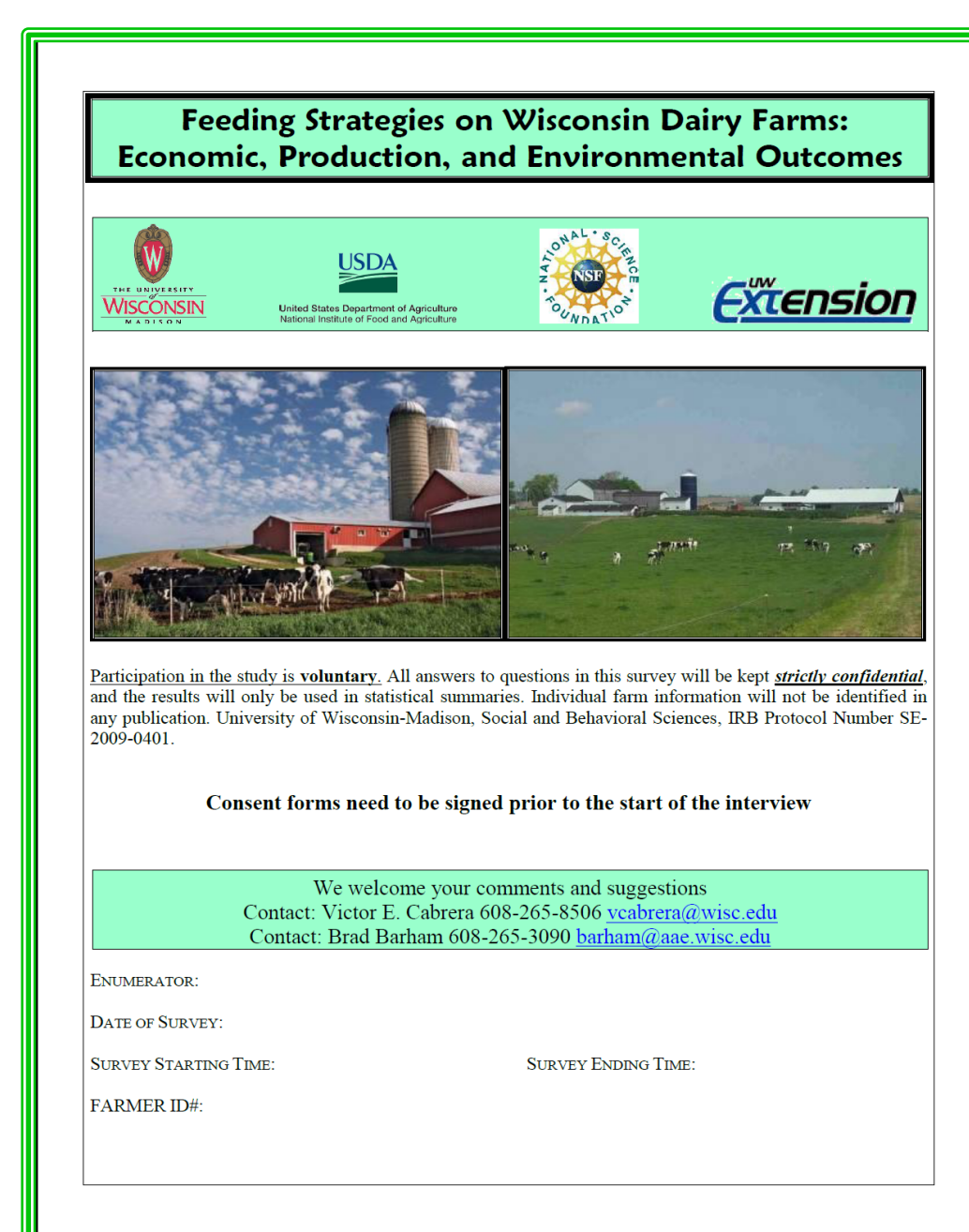


Figure 1: Screenshot of the 44-page survey cover page.

# Characterization of certified organic Wisconsin dairy farms: Management practices, feeding regimes, and milk production



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# Results and Discussion

Table 1: Characteristics of the surveyed organic Wisconsin dairy farms.

| Trait  | n  | %    | Minimum | Maximum | Average | SD    |
|--|----|------|---------|---------|---------|-------|
| <b>GENERAL</b>   |    |      |         |         |         |       |
| Number of years certified organic  | 66 | -    | 0.67    | 20      | 6.65    | 4.74  |
| Number of years utilizing grazing  | 63 | -    | 0       | 90      | 14.7    | 13.4  |
| Total land (ha)  | 66 | -    | 17.8    | 776     | 123     | 132   |
| Total pasture (ha)   | 66 | -    | 6.08    | 145.8   | 40.0    | 31.3  |
| Number of decision makers  | 66 | -    | 1       | 5       | 2.38    | 0.97  |
| Age of the respondent (years)  | 65 | -    | 18      | 74      | 49.5    | 13.3  |
| Raised on farm (% of respondents)  | 64 | 84.8 | -       | -       | -       | -     |
| Relied entirely on family labor (% of farms)                                 | 66 | 43.9 | -       | -       | -       | -     |
| <b>DAIRY HERD</b>  |    |      |         |         |         |       |
| Number of cows   | 66 | -    | 12      | 650     | 69.2    | 85.8  |
| Number of heifers  | 66 | -    | 9       | 600     | 59.3    | 80.5  |
| Milk production (kg/cow per year)  | 66 | -    | 2,356   | 10,274  | 6,264   | 1,802 |
| Fat content (%)  | 60 | -    | 3.47    | 5.19    | 3.98    | 0.35  |
| Protein content (%)  | 60 | -    | 2.82    | 3.67    | 3.15    | 0.18  |
| SCC (x1,000 cells/ml)  | 60 | -    | 97.5    | 707     | 244     | 99.4  |
| Number of lactations before culled   | 66 | -    | 2       | 7       | 4.51    | 1.16  |
| Length of dry period (d)   | 66 | -    | 35      | 140     | 63.4    | 15.8  |
| Calving interval (d)   | 66 | -    | 300     | 608     | 390.0   | 37.5  |
| Age of first calving (months)  | 65 | -    | 23      | 36      | 26.1    | 2.72  |
| Purchased dairy replacements (% of farms)                                    | 66 | 10.6 | -       | -       | -       | -     |
| Used bulls (% of farms)  | 66 | 60.6 | -       | -       | -       | -     |
| Used AI (% of farms)   | 65 | 72.3 | -       | -       | -       | -     |
| Predominant breed was Holstein or Holstein +Holstein crossbreds (% of farms) | 66 | 57.6 | -       | -       | -       | -     |
| <b>FEEDING/GRAZING</b>   |    |      |         |         |         |       |
| Estimated total DMI (kg/cow per day)   | 64 | -    | 11.8    | 28.2    | 19.8    | 3.7   |
| Estimated peak pasture intake (% of total DMI)                               | 63 | -    | 1       | 100     | 69.3    | 26.1  |
| Grazing rotation frequency (d)   | 62 | -    | 0.21    | 14.0    | 1.81    | 2.61  |
| Length of grazing season (d)   | 65 | -    | 122     | 244     | 184     | 29.0  |
| Supplemented grain (% of farms)  | 66 | 81.8 | -       | -       | -       | -     |
| Supplemented protein (% of farms)  | 65 | 12.3 | -       | -       | -       | -     |
| Supplemented corn silage (% of farms)  | 65 | 35.4 | -       | -       | -       | -     |

Based on the survey results, the average organic Wisconsin dairy farm had been organic for 6.65 years but had grazed for twice as long. It operated 123 ha with one-third of them being pasture. The herd consisted of 69 cows and 59 female young stock. Milk production averaged 6,264 kg/cow per year with fat and protein contents of 3.98% and 3.15%, respectively. Cows initially calved at 26.1 months of age, calved every 390 days, and remained in the herd for 4.51 lactations. The estimated DMI was 19.8 kg/cow per day with an estimated 69.3% of intake coming from pasture during the peak grazing season.

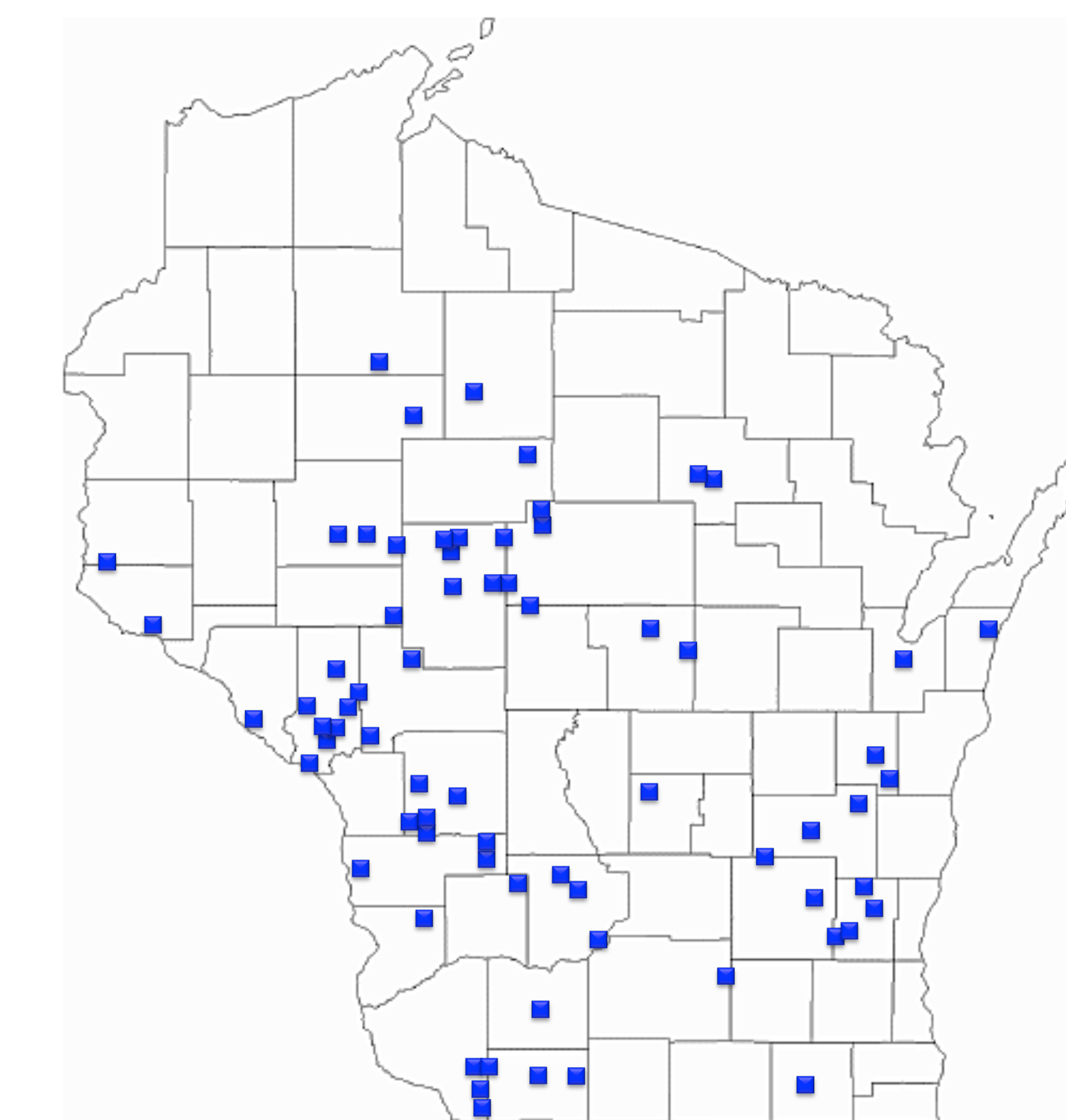


Figure 2: Locations of the 70 surveyed organic (ORG) farms.



# Conclusions

As indicated by the ranges and SD presented here, certified organic Wisconsin dairy farms varied widely in herd performance characteristics, feeding regimes, and general structure. Awareness of these extreme variations should help design Extension programs and agricultural publications better suited to meet the educational needs of this dairy sector.

# References

Jarvis, Michael, and Billy Cox. USDA Issues Final Rule on Organic Access to Pasture. USDA Agricultural Marketing Service News Release. February 12, 2010.



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