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## INTRODUCTION

Organic and conventional grazing dairy producers have many questions about feed supplementation strategies, including impacts to overall cost of milk production, environmental and production factors. Seasonality and dynamics of pasture quality and quantity make ration formulation an ongoing challenge for grazing-based dairy systems. Research-based information is needed to assist transitioning, organic, and conventional grazing dairy producers with ration decisions and identify impacts of supplementation strategies on other production, environmental and economic goals.

An integrated long-term research and extension project has been designed to investigate impacts of supplementation decisions made by Wisconsin organic and conventional grazing dairies on selected economic, production and environmental variables.

Results will be incorporated into producer-friendly outreach materials and decision aids for use by farmers, extension professionals, and other agricultural advisors who assist organic, transition, beginner or grazing dairy producers with their farm and risk management decisions.

## MATERIALS AND METHODS

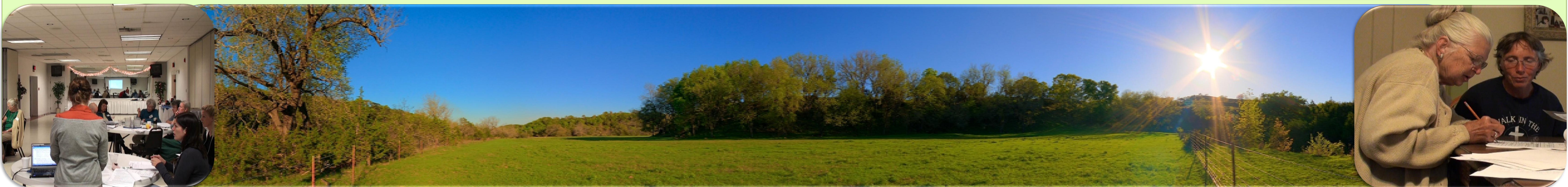
The project team (<http://dairymgt.uwex.edu/projects/orei.php>) conducted a series of focus groups with dairy farmers and extension agents across Wisconsin, including a special session in the 2010 Grazing Conference in Wisconsin Rapids to solicit ideas and farm decision questions from participants in preparation for the project. A document summarizing feedback from more than 50 people is being used for project's next steps such as the development and application of a large interview survey.

In collaboration with survey experts at the University of Wisconsin-Madison and USDA's National Agricultural Statistical Service, Wisconsin Field Office, the project team developed a highly interdisciplinary and comprehensive survey instrument (Figure 1), which was field tested with 5 farm operations. The 50-page survey includes 10 sections covering whole farm management and it is accompanied by a detailed training manual. To enable some comparisons, data from conventional non-grazing farms is also being collected as part of another project using the same survey tool developed for this project.

A 2-day workshop was conducted to train enumerators on the correct application of the survey, and a protocol was established for implementation. Farmers were randomly selected using official lists of certified milk producers and organic milk producers from the State of Wisconsin. Enumerators have been interviewing farmers for this project in southwest Wisconsin since late fall 2010. Currently, project graduate students are digitalizing data from completed surveys and developing a frameworks for data analyses as well as initiating a similar interview process for farms across Wisconsin.

Preliminary analysis of feeding management, milk production, milk composition, feed cost and milk income over feed costs from 8 selected surveys is presented here. Within this sample, 3 farms were organic, 3 grazing, and 2 conventional.

Figure 1: Screenshot of 50-page survey being used in this study



## PRELIMINARY RESULTS AND DISCUSSION

Figure 2: Feeding practices and dry matter intake (DMI; lbs/cow/day) excluding pasture use on Wisconsin organic, grazing, and conventional dairy farms during year 2010.

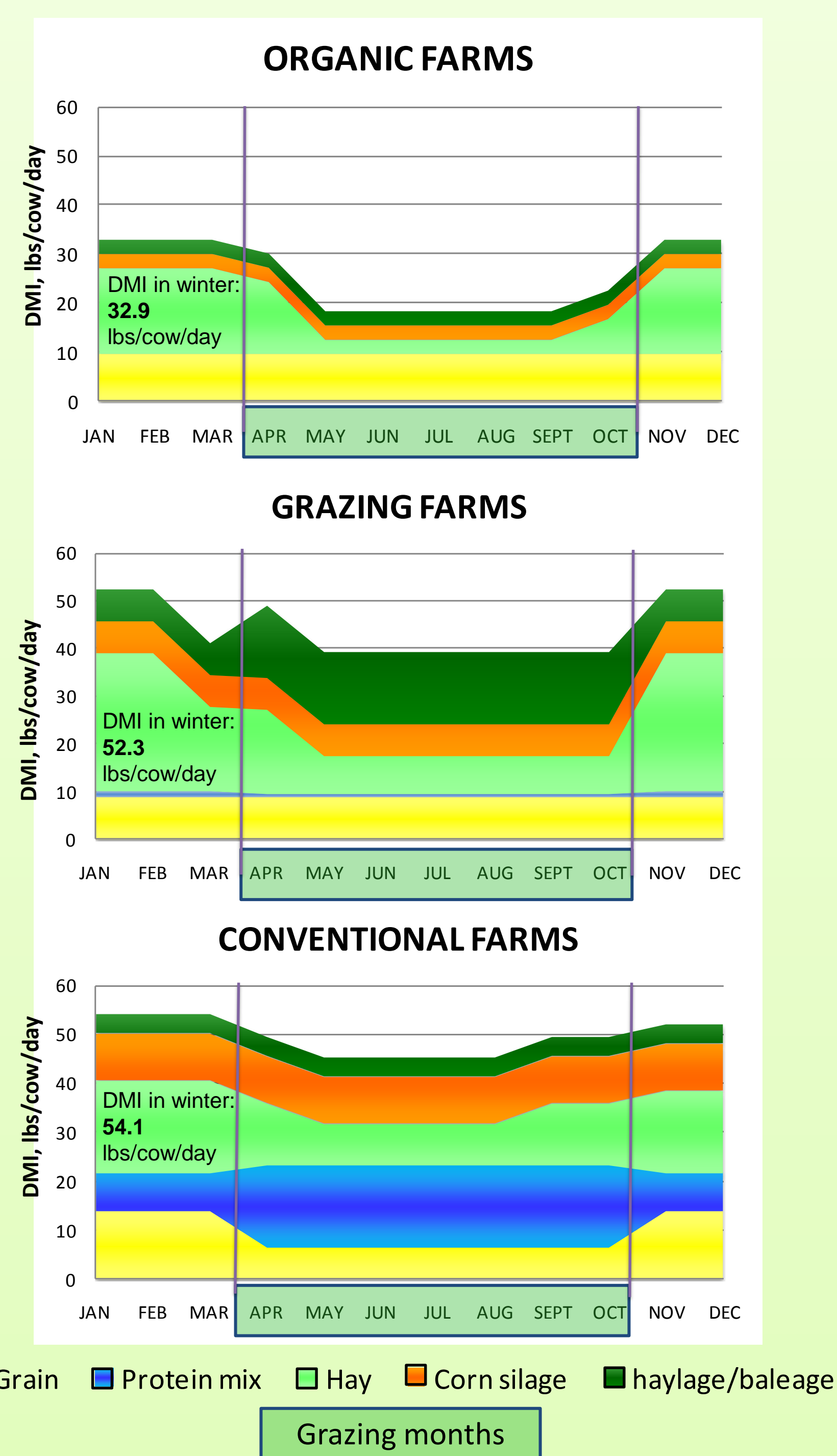


Figure 3: Milk production (lbs/cow/day), fat (%) and protein (%) on Wisconsin organic, grazing, and conventional dairy farms during year 2010.

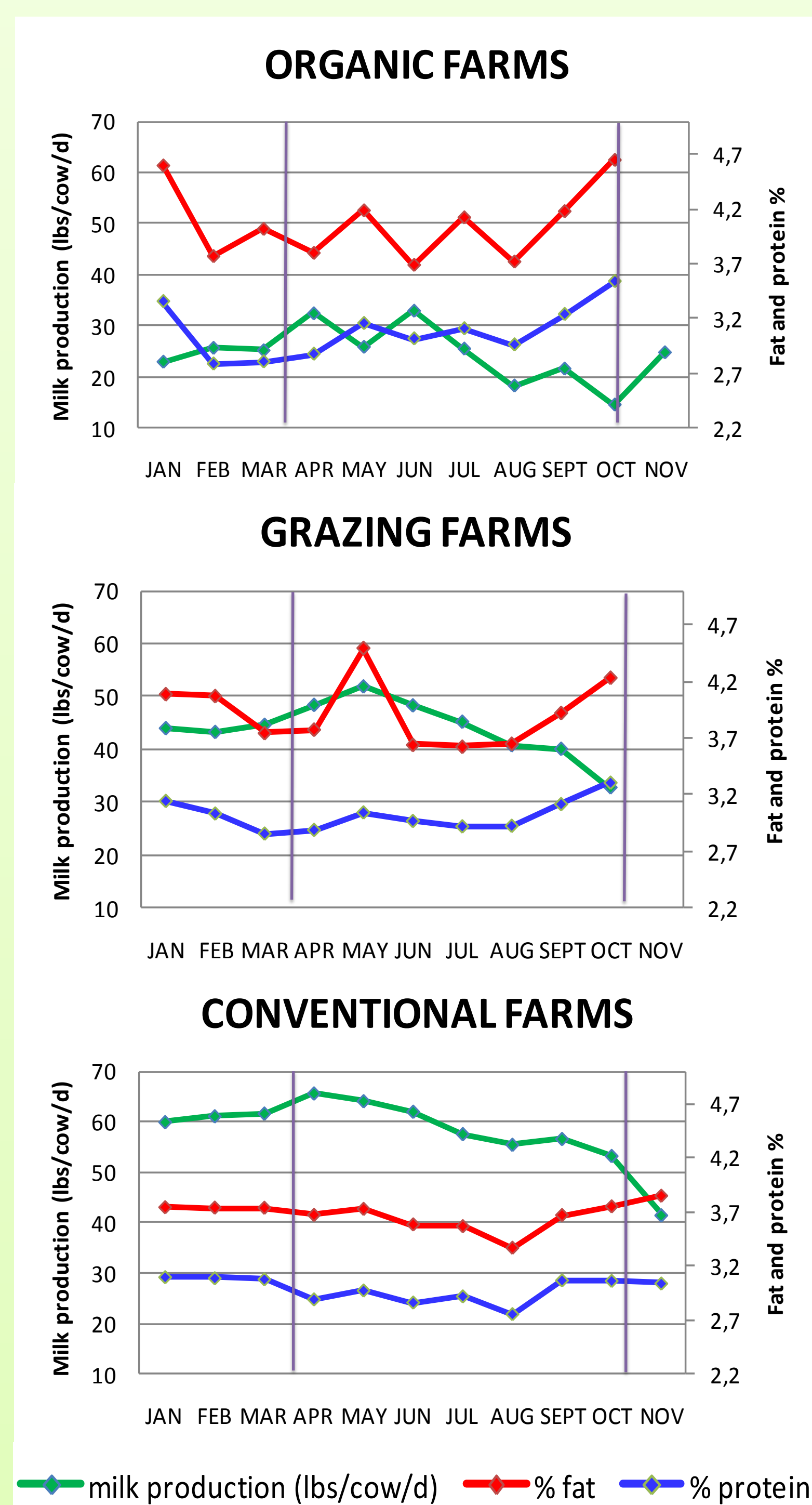
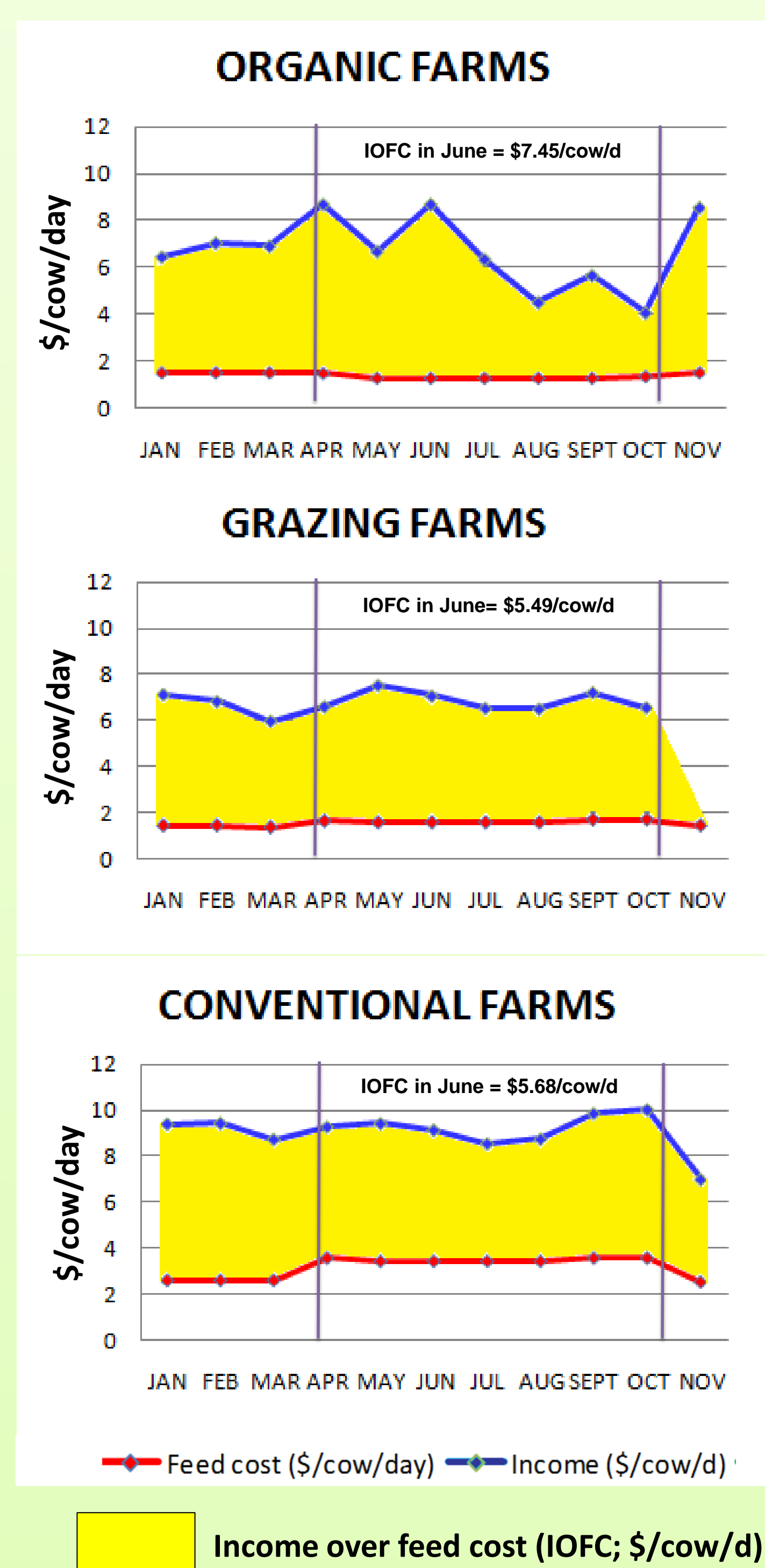


Figure 4: Milk income, feed cost (including an estimate of pasture cost), and milk income over feed cost (IOFC; \$/cow/day) on Wisconsin organic, grazing, and conventional dairy farms during year 2010.



The 3 systems use the same forages, but in different amounts across the year. Organic and grazing farms use only grain for concentrate, whereas conventional farms add protein mix, especially during the grazing season.

Even though not an important part of the diet, some conventional farms also use limited grazing.

Organic and grazing farms take full advantage of the grazing season by substantially decreasing the use of supplemental feeds.

Milk production increased during the spring for the 3 farm systems.

Lower feed intake on organic farms and a less dense diets on grazing farms led to a lower milk production on these systems compared to conventional farms.

Preliminary results indicate that milk production and composition are more variable on grazing and organic than conventional farms due to feeding strategies.

Milk production is higher during April, May and June on organic dairy farms, leading to the highest milk IOFC among systems.

Milk IOFC seems less variable across the year on grazing and conventional farms.

Preliminary results indicate that, overall, the milk IOFC was comparable for the 3 systems during the year 2010.

## PRELIMINARY RESULTS AND DISCUSSION

Table 1: Farm size and milk price for organic, grazing, and conventional dairy farms surveyed.

	ORGANIC FARMS	GRAZING FARMS	CONVENTIONAL FARMS
CROPLAND (acres)	243	204	334
PASTURE (acres)	96	57	40
COWS (#)	97	44	167
BREED	Holstein, Jersey and cross bred	Holstein and cross bred	Holstein
MILK PRICE 2010 (\$/cwt)	27.38	15.68	15.68

## CONCLUSIONS AND TAKE-HOME MESSAGES

Preliminary results are encouraging to project's main goal. Additional data collection (already initiated), is needed to have a good representation of feeding management strategies by organic and non-organic pasture-based Wisconsin dairy farms.

Results presented here reflect only a small portion of all the data contained in the collected surveys. More data analysis will portray a robust representation of the impact of feeding management practices on production, environment, and economics.

Further analysis is anticipated to play an important role on strategic feeding management decisions on organic and grazing dairy farm systems as well as in comparable conventional farms, especially during the grazing season.

