

Dairies Utilizing High Stock Density Grazing in the Northeast

Abstract

High density stock grazing (i.e. mob grazing) is a practice that is being evaluated and used by experienced and new grazing dairy farmers. We have since learned that most dairy farmers call mob grazing, "high density stock grazing" (HDSG). The cattle are grazing pastures higher and leaving higher grass residuals, while the farmers are still striving for high quality forage.

High density stock grazing is a very new practice in dairy production and the study captures some of the ground-level practices of the innovative farm families. There is very little research-based information for farmers, extension personnel and conservation professionals to use.

Each farm has resource challenges and opportunities that impact the ability to use this type of grazing. Our goal was to collect pasture data and interview the farmers to understand their management goals and practices. We developed a sampling protocol and questionnaire. The questionnaire was used to capture a variety of responses from 5 farm families. This information included indicators of profitability, sustainability and community. Case studies will be developed in winter 2013 and are designed to create a "snapshot" of the farms. Outreach will be conducted in the growing season of 2013.

Pasture data was taken in advance of cattle grazing a paddock. Data includes grass height, BRIX measurement, forage analysis, botanical composition, soil testing and soil bulk density. Measurements were taken in 2012, with additional measurements in spring of 2013.

Outcomes for behavior change will be monitored by evaluating participants at the proposed field day and other items. The project assisted 4 partners to work in a collaborative fashion and would benefit their own understanding of this practice by innovators.



Objectives

Dairy graziers and service providers will learn about the use of high density grazing or "tall grazing" from data collected from 5 farms in New York and Pennsylvania. Knowledge will be gained by use of "case studies."

Table 1. Summary of Practices	Farm 1	Farm 2	Farm 3	Farm 4
Farm description				
Acres of pasture	620	240	260	200
No. milk cows	270	60	235	145
Pasture allotment				
Pasture size, acre	1	2-4	2-2.5	1
Cows/pasture	135	50	245	145
Pasture size/cow/d, acres	0.03	0.06-0.08	0.02	0.01-0.02
Grazing cycle	28-30 d	When rested	18-24 inch	35 d
Forage remaining	30%	30-50%	30-40%	40%
Moves per day	1	2-5	2	2
Hours on pasture	20	20	20	20
Distance to barn, miles	0.19	0.04 – 1.50	0.11 – 0.50	0.04 -0.75
Supplemental feeding				
Stored feeds, if any	Hay	Silage	Hay + Silage	Silage +Baleage
Graze in winter?	If weather permits	Until Dec.	No	No

Methods

Case studies are used to describe what innovative farmers are doing to adapt "mob grazing" techniques to a dairy farm. Data was derived from the following methods:

Farmer Interviews

Pasture Sampling

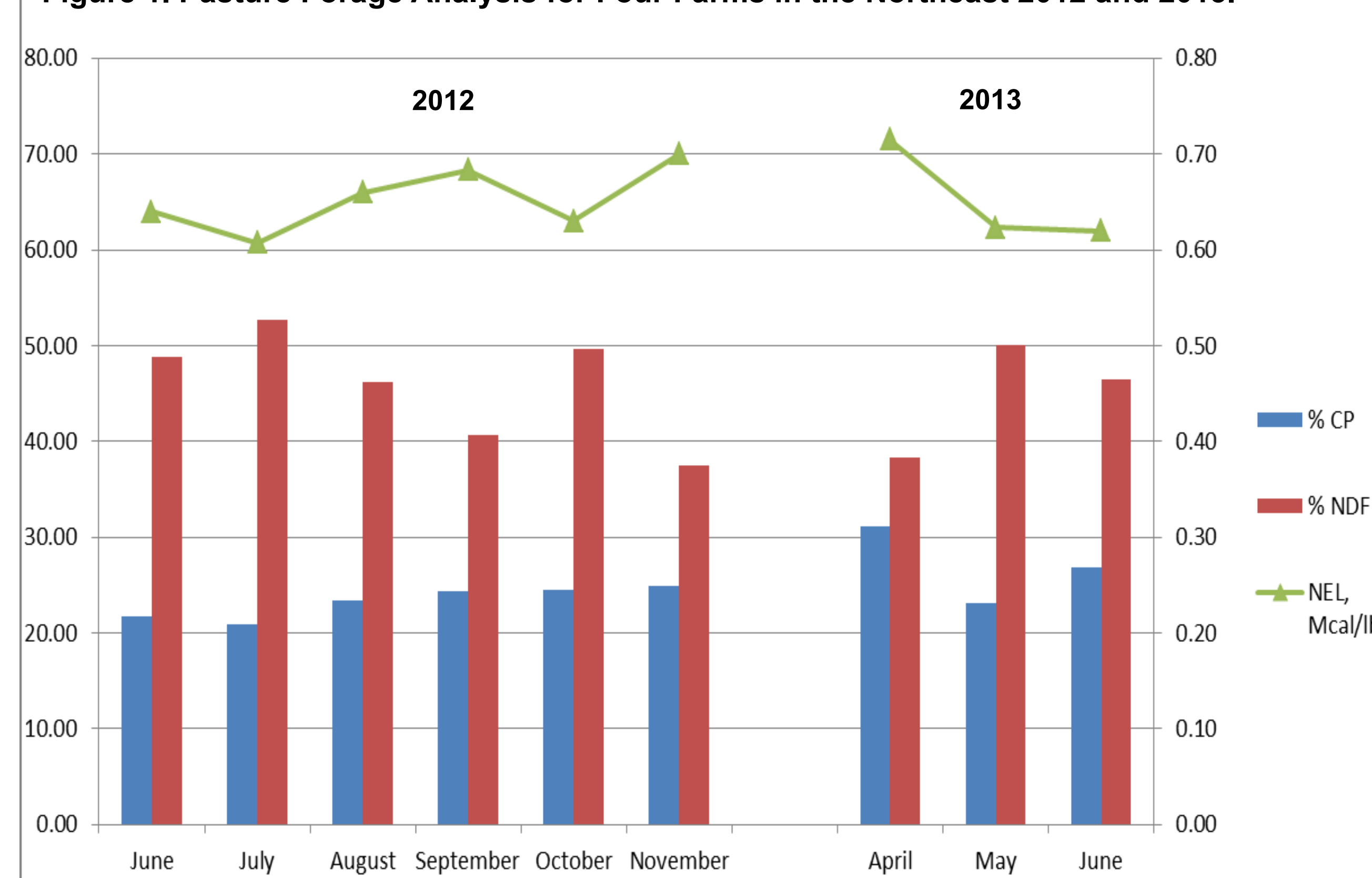
One paddock was sampled at each rotation before cattle grazed the paddock. Measurements taken included:

- . grass height, paddock size, cow number
- . pasture nutritional analysis sent to Dairy One Forage Lab, Ithaca, NY
- . pasture botanical composition
- . sward stratification by mass
- . per cent Brix
- . basic soil test including organic matter through the Ag Analytical Services Laboratory, Penn State University, State College, PA

Results/Products

- . Practices were summarized for 4 of the 5 farms. See Table 1.
- . Forage quality was excellent in 2012, 2013. See Figure 1.
- . Stratification layer of the Pasture: Figures 2 and 3 show that cattle consumed most of the forage in the upper canopy.

Figure 1. Pasture Forage Analysis for Four Farms in the Northeast 2012 and 2013.



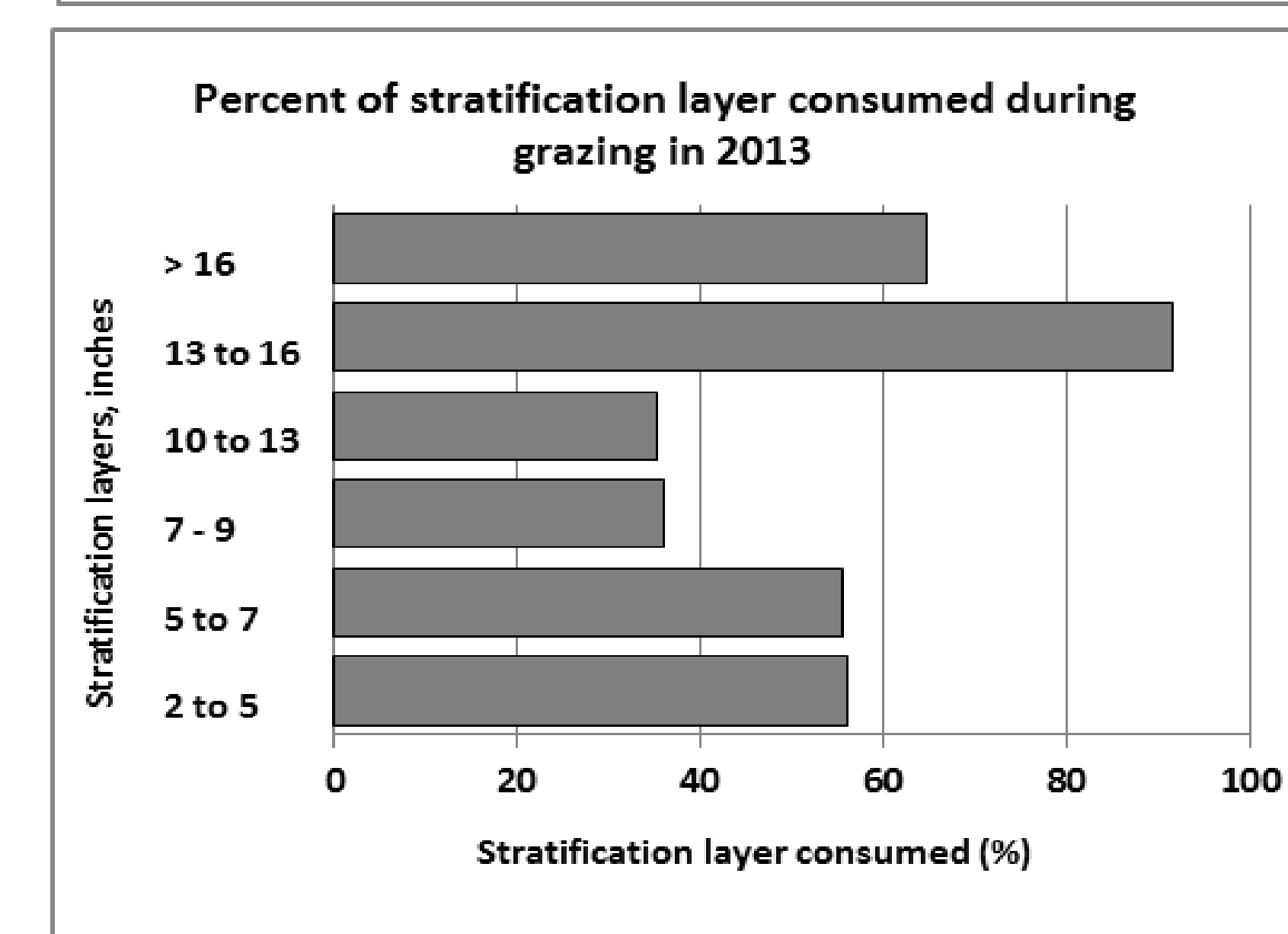
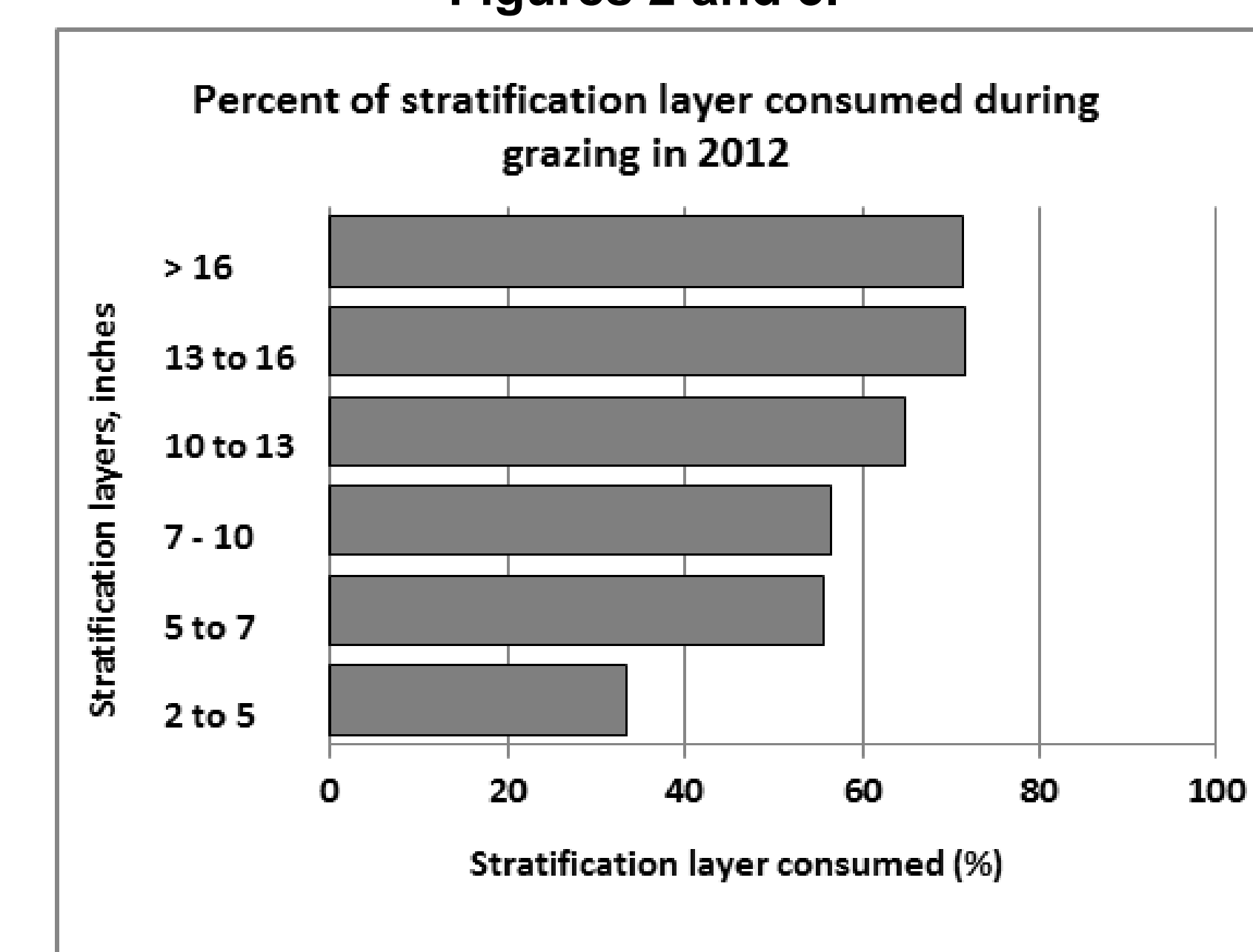
Conclusions

The dairies in this study were following a grazing management system that fell between the traditional management-intensive grazing (MIG) and the traditional definition of HDSG.

They are grazing forages slightly more mature than what has been traditionally recommended in MIG systems, slowing the rotation (30-50 day rotations) to allow these plants to mature. Forages are not nearly as mature as what has been anecdotally reported in HDSG situations. Dairy farmers still need quality forage.

Dairy producers that are beginning graziers would be wise to gain experience managing for dry matter and quality as primary goals and then move towards a system incorporating this "hybrid" approach.

Figures 2 and 3.



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