



# dinamica generale®

## dg precisionFEEDING™ System

### Case Study

University of Minnesota Study<sup>1</sup>

Gar-Lin Dairy, Eyota, Minnesota<sup>2</sup>

In cooperation with dinamica generale, USA<sup>3</sup>



Dr. Noah Litherland

## “Controlling Variation with Precision Feeding Applications”

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An 18-week study of a new Intelligent Ration Management system from dinamica generale® of Italy was conducted at the Gar-Lin Dairy in Eyota, Minnesota, in 2010, when 505 cows were divided into two groups to determine the efficacy of the company’s dg precisionFEEDING™ technology.

The study was conducted to test the system’s ability to maintain DM and DMI consistency over time under harsh conditions. The study measured differences in milk quantity and composition, as well as feed refusals between groups.



### Highlights of the Study

- ▶ The results of this study show that the dg precisionFEEDING system:
  - Works properly in harsh environments
  - Scans forages within seconds
  - Uses sophisticated software to wirelessly make corrections of DM deviations from a reference value at the TMR, and automatically optimizes feed intake and milk production
- ▶ Dairy feeding precision and efficiency were comparable with the industry gold standard of weekly sampling and diet DM correction using highly skilled feeders able to act as a human precision feeding system
- ▶ Gar-Lin Dairy is a superior, highly expert dairy farm that has always achieved outstanding consistency in forages and control of dry matter variations in feed through superior bunker face management and analytical controls.
  - The benefits between groups fed with the dg precisionFEEDING system and those fed using conventional ingredient adjustments would be greater at dairy farms with more problematic variation in fed dry matter consistency (particularly after rain events when forage moisture can soar), or if inexperienced feed personnel are used

“Precision dairy nutrition is a system concept that includes meeting cow’s nutrient requirements so that nutrient availability does not limit her performance, done in an economically viable and environmentally sustainable way.”

## dg precisionFEEDING...

- ▶ Achieves minimal feed variation
- ▶ Minimizes the impact of a rain event on DM variation
- ▶ Minimizes feed cost to produce a cwt of milk
- ▶ Optimizes milk protein yield
- ▶ Minimizes the impact of thermal stress
- ▶ Manages nitrogen and phosphorus secretion for environmental considerations
- ▶ Increases productivity, efficiency and profitability

“Increased volatility of commodity prices and pressure to minimize the negative impact on the environment has also renewed interest in precision feeding.”

### Study Results

- ▶ The control group and cows fed using the dg precisionFEEDING system, all high producers, maintained nearly identical intake, production and efficiency
- ▶ dg fed cows performed as well as those fed using the “gold standard” methods for feed management regularly practiced at Gar-Lin Dairy
- ▶ Real time adjustment in DM allows producers to correct for changes in ingredient DM as they occur
- ▶ The lack of differences in the nutrient composition between treatments is not surprising given the consistency of forages and precision of feeding procedures used on the Gar-Lin farm. Treatment differences might be greater on a farm managed with less precision or during alternate times of the year with greater precipitation
  - Improved feeding precision was masked as feed refusals averaged 5.0% for both treatment groups resulting in an abundant supply of feed. The higher amount of feed refusals likely reduced the impact of the precision feeding system on milk
- ▶ *During the largest rain event during the trial, 4.3 inches on September 23, 2010, a 2.8kg (6.17 lbs) drop in milk was observed in the Control group on September 24, while the dg fed group only dropped 1.3kgs (2.87 lbs), likely due to the equipment's ability to maintain consistency of the DM fed to the treated group*



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