

## Introduction & Objective

### Introduction:

- To reduce milk production before dry off, producers may:
  - ↓ milking frequency
  - ↓ nutrient availability
- Dry off strategies that excessively restrict feed quantity or quantity may cause cows to experience hunger or negative energy balance
- Producers may transition cows directly to the dry cow diet:
  - Limits number of dietary changes
  - But, feed sorting may result in cows consuming a diet nutritionally different than intended

### Objective:

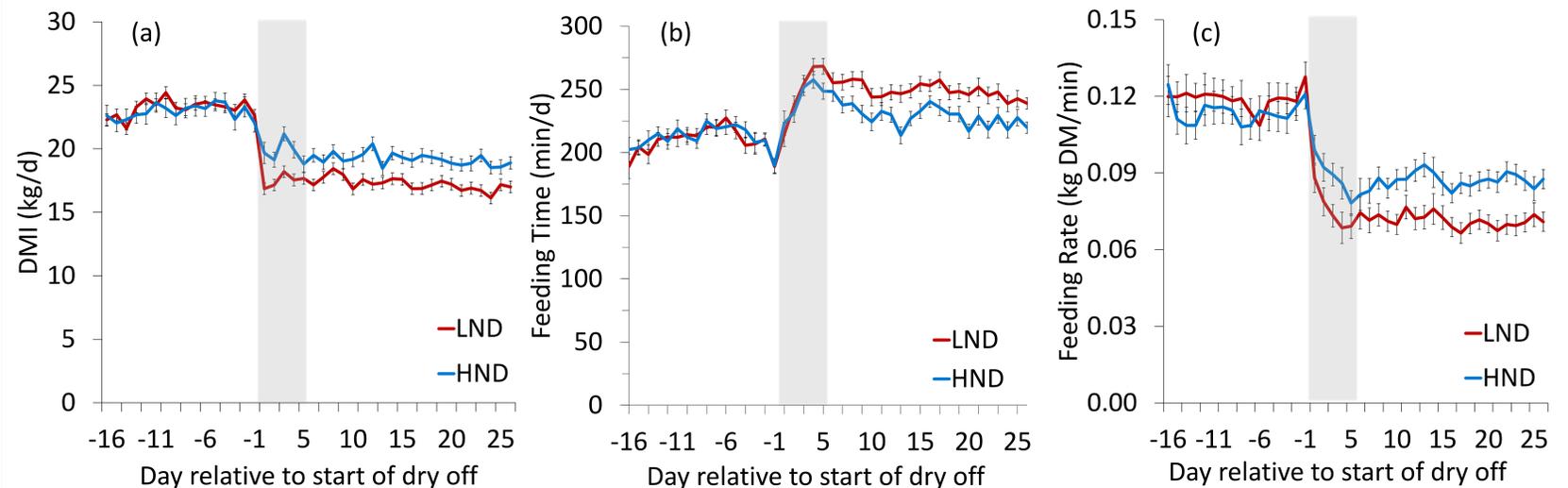
- To assess the impact of the magnitude change in dietary nutrient density at dry off on the feeding behavior of dairy cows

## Methods

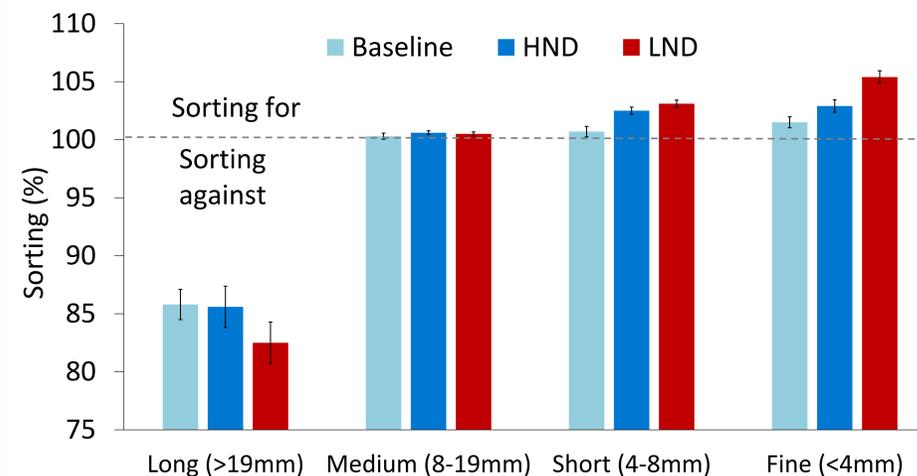
- At the start of dry off (d 1), cows were randomly assigned to 2 TMR offered *ad libitum*:
  - Higher Nutrient Density (HND;  $NE_L = 1.55$  Mcal/kg)
  - Lower Nutrient Density (LND;  $NE_L = 1.48$  Mcal/kg)
- 48 late-lactation Holstein dairy cows
  - Milked 2x/d, producing  $26 \pm 5.5$  kg/d
  - Consuming a TMR ( $NE_L = 1.66$  Mcal/kg)
  - Dried off in groups of 6 over a 5-d period by milking 1x/d on d 1, 2, 3, and 5
- Cows were assigned to individual feed bins
- Particle separator was used to separate feed samples into 4 particle size fractions to determine sorting



## Results



**Figure 1.** Average daily (a) dry matter intake (DMI), (b) feeding time, and (c) feeding rate by treatment (LND or HND diet) of all cows relative to the start of dry-off (d1). Shaded gray areas indicate dry off days.



**Figure 2.** Average sorting values (%) by fraction for all cows, during the baseline and treatment periods.

- Cows consistently sorted against long particles (Fig. 2)
- Sorting for short particles increased ( $P \leq 0.04$ ) similarly from baseline for both treatments (Fig. 2)
- Sorting for fine particles increased ( $P = 0.03$ ) from baseline for cows fed the LND diet (Fig. 2)
- Accounting for observed sorting, LND cows consumed 1.52 Mcal/kg and HND cows consumed 1.56 Mcal/kg

## Implications

- The results characterize the changes in feeding behavior that may occur following dietary change at dry off and suggest that feed sorting may result in cows consuming a diet that is of higher nutrient density than intended
- These findings help inform recommendations for feeding at dry off

