

# Experience with hay influences the development of oral behaviors in preweaned dairy calves

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## BACKGROUND

Calves on pasture consume grass and ruminate by 3-5 d of age and consume ad-libitum liquid

- Majority of US dairy farms:
- ❖ Withhold forage until weaning
  - ❖ Provide grain by 10 d
  - ❖ Provide water by 17 d
  - ❖ Limit milk allowance

Limiting feed and water availability may prevent expression of normal behaviors, affecting welfare and development

## OBJECTIVES

1. Evaluate how intake of solid feed and water develops from birth
2. Assess if early access to hay affects intake and rumination

## PREDICTIONS

All calves will begin consuming water and grain immediately after birth

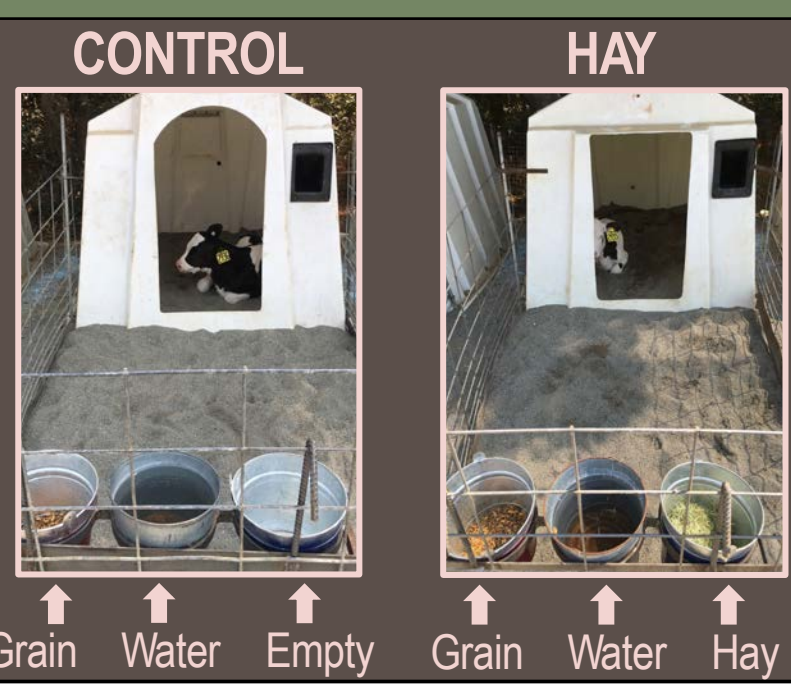
Calves fed hay from birth will ruminate earlier and for longer periods than calves not fed hay

## FEEDING

n = 11/treatment

All calves were bedded on sand and bottle-fed 6 – 9 quarts milk/d step-up 3x/d from 0 – 49 d

TMR was introduced to all calves when step-down weaning began at d 50



## DATA COLLECTION

Daily feed and water intake from birth through weaning

ADG with tape measure

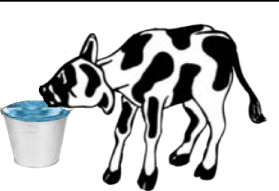
Rumination by minute via ear tag accelerometers

88°  
55°

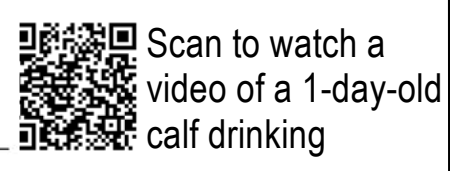
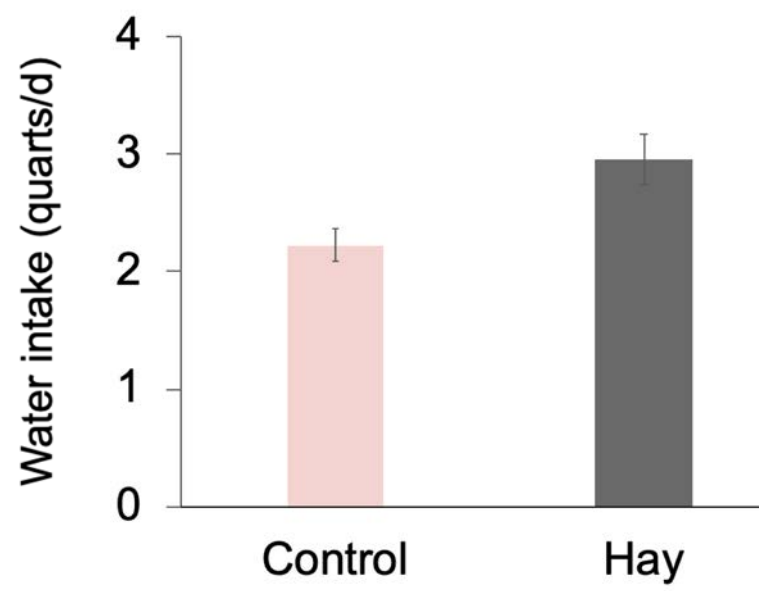


## RESULTS

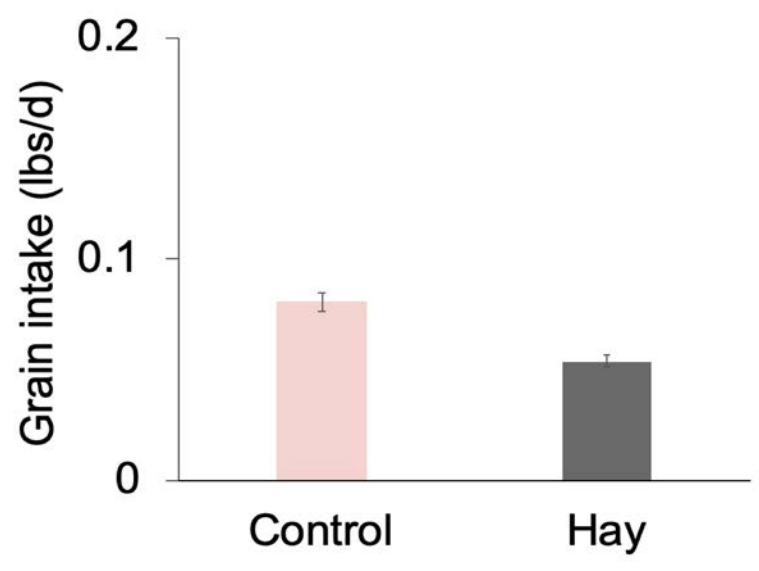
### First Week



Regardless of treatment, calves will consume approximately 2 quarts of water per day from birth



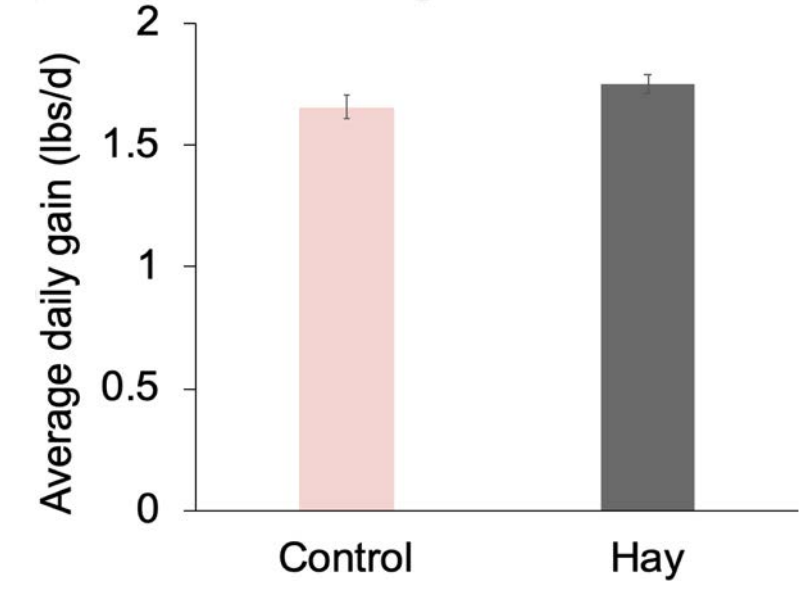
All calves consume grain beginning on day 1



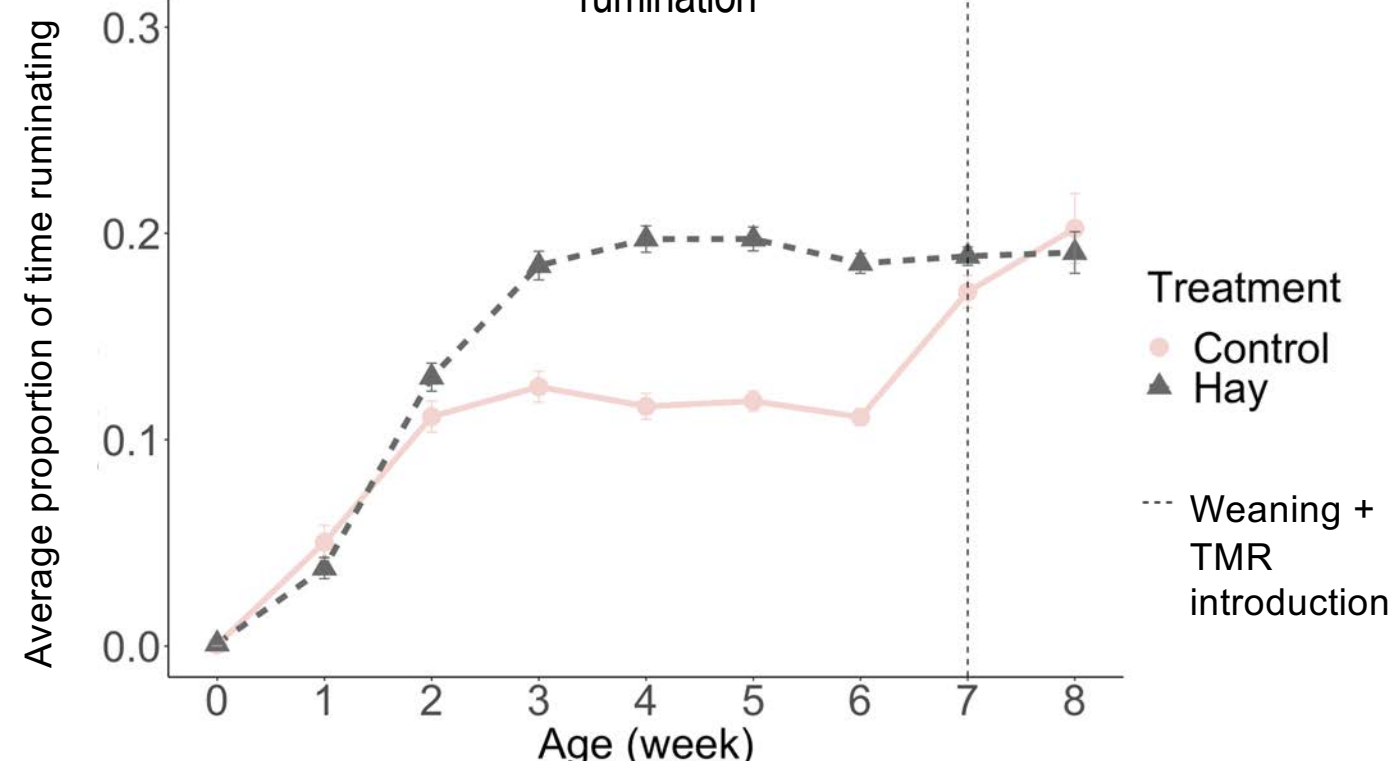
Calves will manipulate and consume small amounts of hay immediately after birth (~0.01 lbs/d) if it is provided

### Entire Milk-Fed Period

Hay provision does not affect ADG in this system



All calves ruminate, but hay enhances this pattern and encourages earlier onset of rumination



## CONCLUSIONS

Calves will consume hay, grain, and water within a day of birth. Early access to hay results in earlier onset and more rumination in the milk-fed period.

