

# Do cows last longer in compost dairy barns?

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# Compost Barn Banter

- Our cows last longer
- We have fewer problems with lameness
- We are able to expand internally
- Our culling rates drop
- We have more dairy heifers to sell

# Compared to What?

- Many of the farmers that are claiming this benefit to cows moved from tie stall barns to the compost barns.
- What would happen if cows were moved from our other well known system of sand based free stalls?



# Is True that.....

- Culling rates drop?
- More dairy heifers for sale?
- Internal expansion?

What do the numbers say?

# Where do the numbers come from?

- DHIA records from 7 farms who transitioned to compost barns
- DHIA records from 7 farms who transitioned to sand bedded free stall barns.
- Transitioning in the barn
  - Prior to being in the new barn (Pre)
  - First year in the new barn (Transition)
  - Beyond the first year (Post)
- Age of the cows
  - First lactation heifers
  - Older cows (2+ lactations)

# Things to note

- Looking across all the farms
- Tie-stall to new barn
  - Pipeline to parlor
  - Individual cow feeding to group feeding with TMR
- Two farms with compost barns pasture in the summer.
- 5 free stall barns have bedded pack housing for fresh and transition cows.

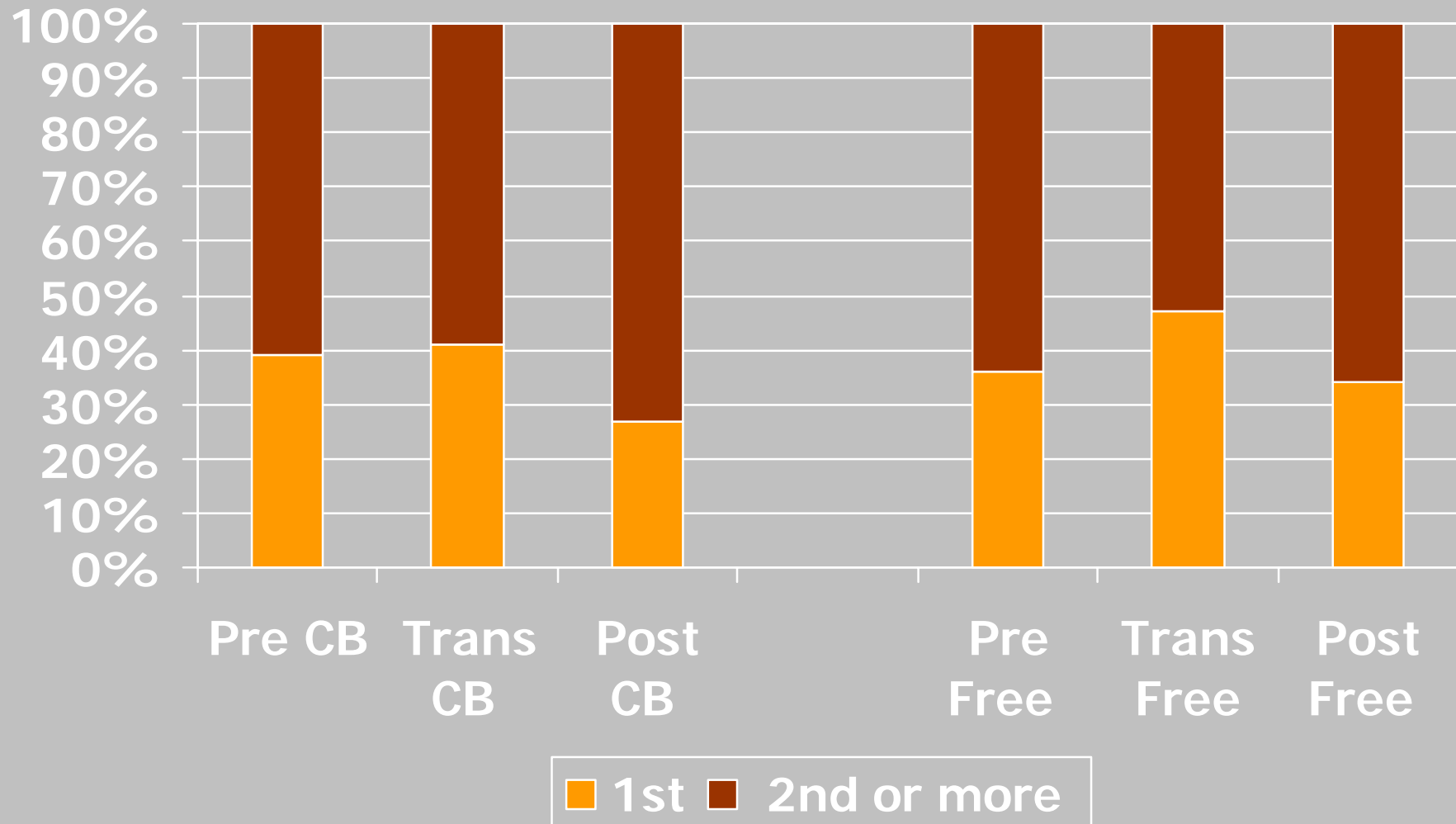
# Old System versus New Dairy Barn

- Up to 18 months prior to moving into the new barn (pre)
- 1-12 months in the new barn (transition)
- 13-14 months in the new barn (post)

# Does Herd Composition Change?

- Percent of lactating cows in first, second and third or more lactations.
  - If culling is reduced, expect the percent of older cows to increase and the percent of 1<sup>st</sup> lactation heifers to decline

# Herd Composition In Dairy Barns.



# Culling

- Did a cow or heifer that freshened leave the herd?
- For each DHIA test date
  - Identify cows sold/died
  - Identify number of cows/heifers freshened
- Culling number of animals leaving the herd divided by the number of animals freshening

# Older Cows

- Decrease in lameness
  - Average lameness prevalence in compost barns was found to be 2-3 times less than the average in tie-stall or free-stall systems
- Some farms were still expanding
  - Tend to keep a cow that might otherwise be culled?

# Value of reduced culling

- Look at older cows
  - More Productive
  - Less calving difficulty
  - Lower Reproduction
  - Worth Less as replacements
- For 100 Cow herd
  - Each culling percentage point will make one extra cow.
- If the farm will have 1 more saleable cow or heifer for a total value of \$1850.

# The Bedding Cost Question

- Does improved culling offset the increased cost of bedding?
- Three systems:
  - Tie-Stall
  - Free-Stall
  - CDB
- Difference in bedding cost
  - Tie-stall to CDB \$19,812
  - Free Stall to CDB \$16,999

# Bedding Costs

	Tie-Stall	Free-Stall	Compost
\$/cow/yr	\$20.88*	\$52.01*	\$219.00
\$/cow/day	\$0.06	\$0.14	\$0.60**
\$/year	\$2,088	\$5,201	\$21,900

\* [www.finbin.umn.edu](http://www.finbin.umn.edu)

\*\* Estimate

# By the Numbers

- Saw a 6 point drop in culling of cows from tie stall to compost barn.
  - On a 100 cow farm = 6 cows year
  - \$11,100 value
- Saw a 2 point drop in culling of cows from tie stall to freestall barn.
  - On a 100 cow farm = 2 cows per year
  - \$3,700 value

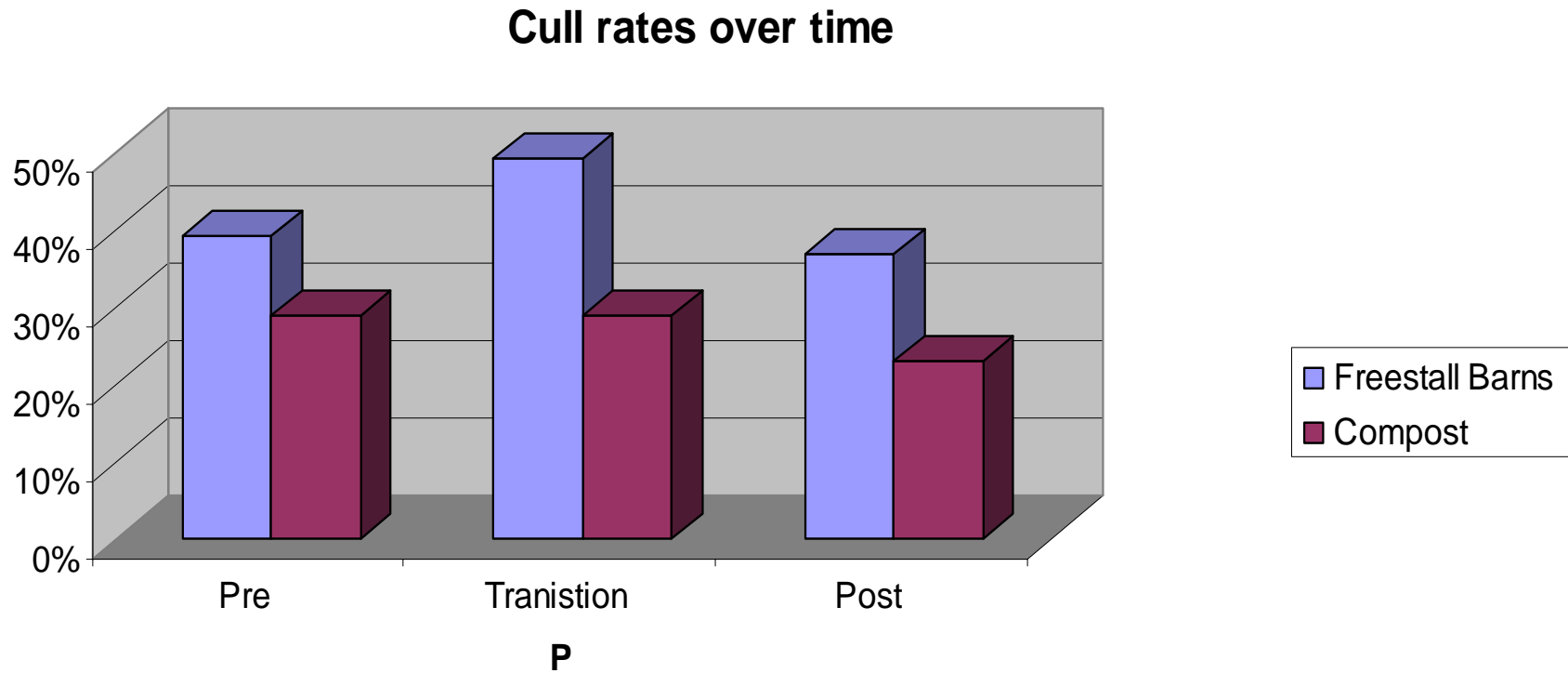
# For 100 Cow Farm

	Tie-Stall	Free-Stall	Compost
\$/cow/day	\$0.06	\$0.14	\$0.60**
\$/ Year	\$2,088	\$5,201	\$21,900
Cull cow/year Value Increase	\$0	\$3700	\$11,100

# What about the transition year?

- We often hear “I will lose a lot of cows that won’t adjust to the freestall barn.”
- How many cows do these barns really lose?
- What did cull rate do in the transition year?

# Transition Year Cull Rate Changes



# Transition

- Buying cows to keep the barn full will cost a lot of money.
- If this requires more loan money debt per cow will go up and interest payments will become a factor.
- How long will that impact last?

# Post Compost Barn

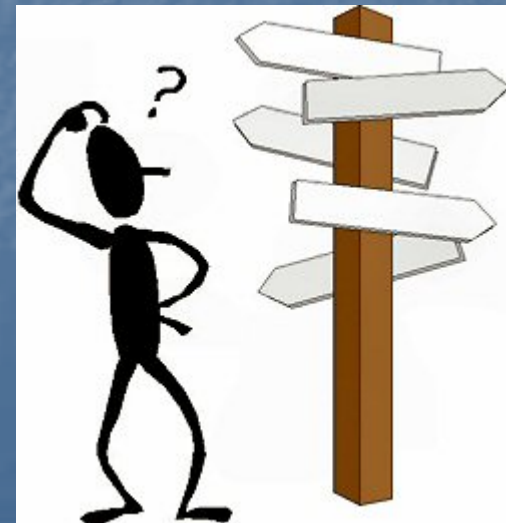
- Both systems reduced the cull rate from the tie stall barn.
- After the transition it comes down to managing costs of both systems.
- Management in either system is key!!!

# How solid are the numbers?

- Data from 14 farms
- More than a new barn effect
  - System change
  - Culling rate beyond the transition year
  - What is your starting point?

# Other things to consider

- Cost of manure storage???
- Labor savings????
- Nutrient value of the manure pack????
- Use CDB in combination with other systems????



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