

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.

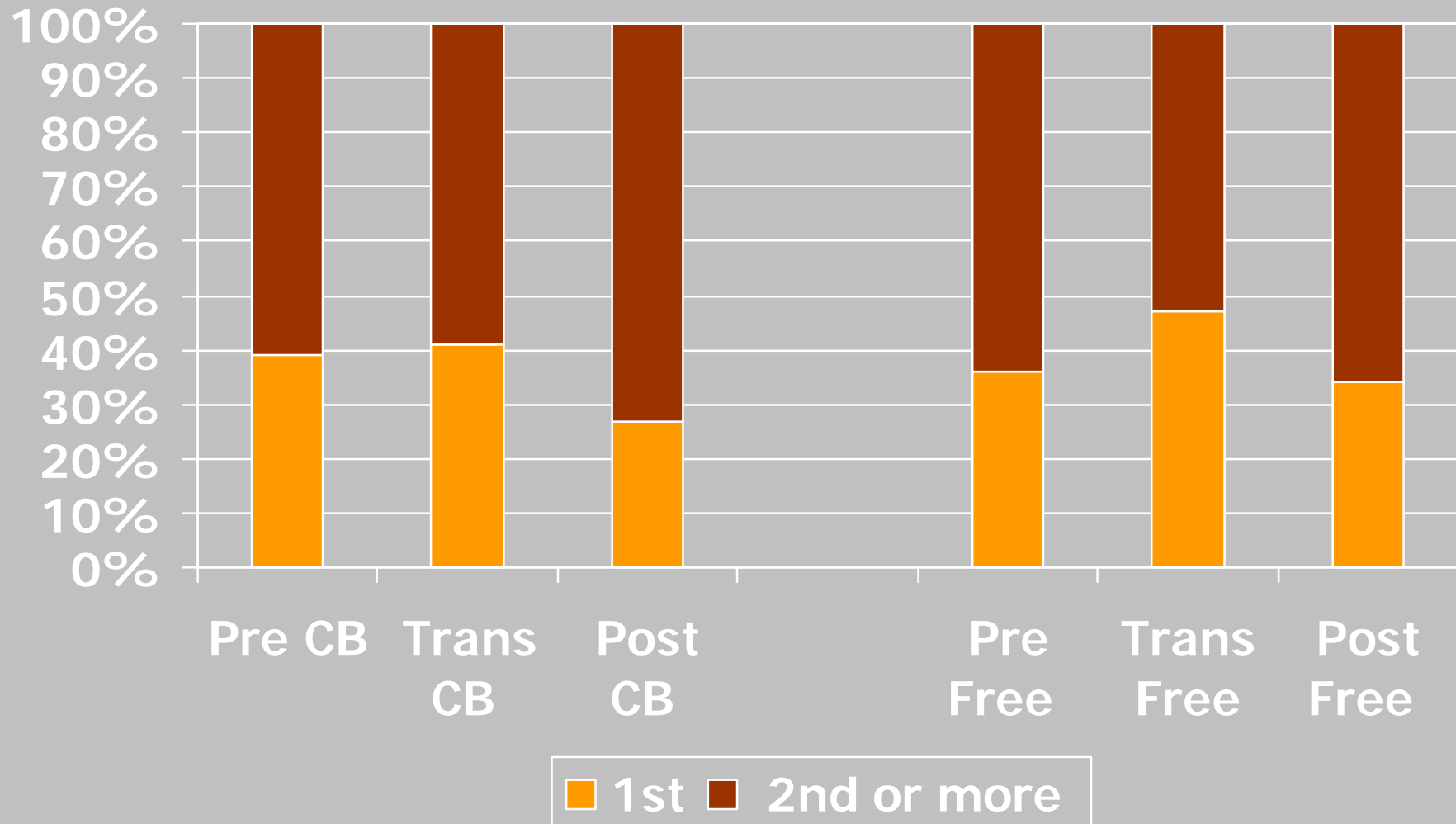
Old System versus New Dairy Barn

- 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 1st 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

** 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

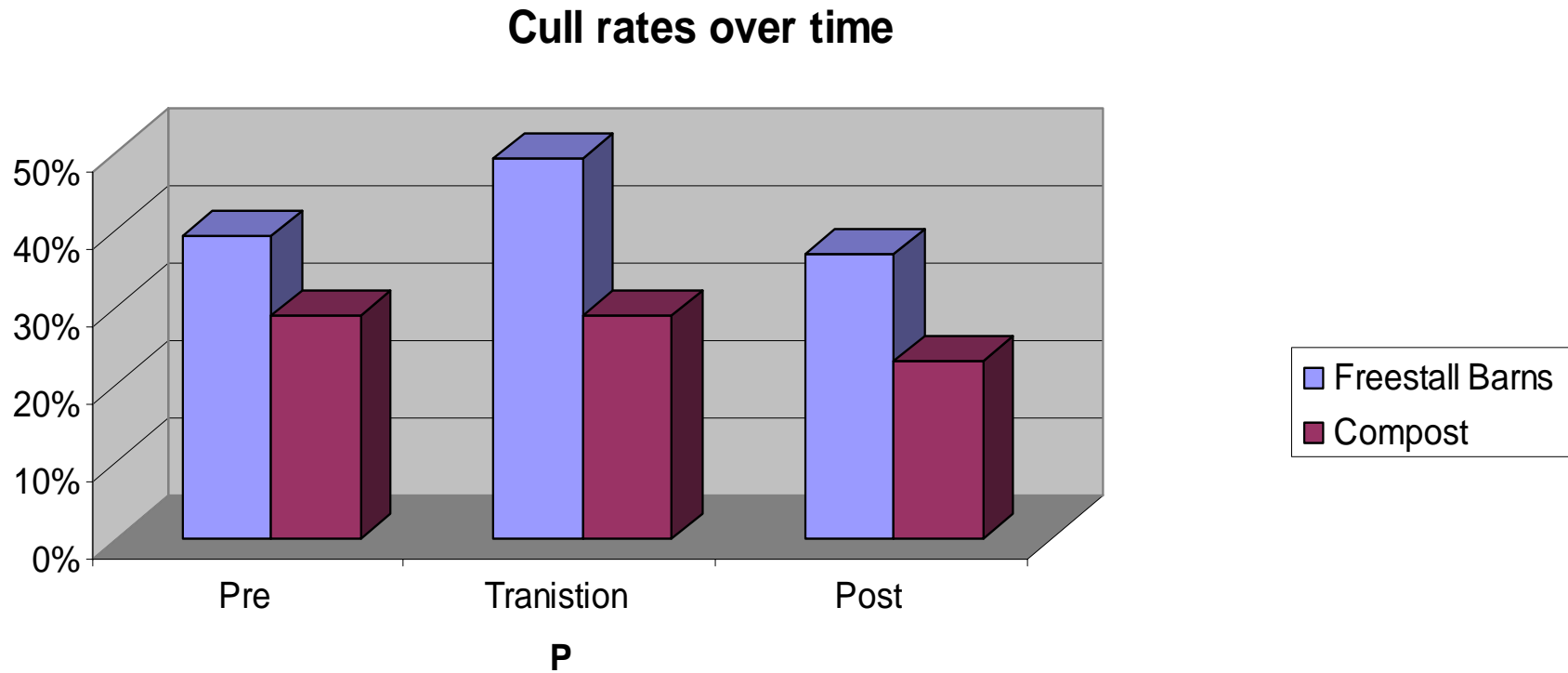
For 100 Cow Farm

| | 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

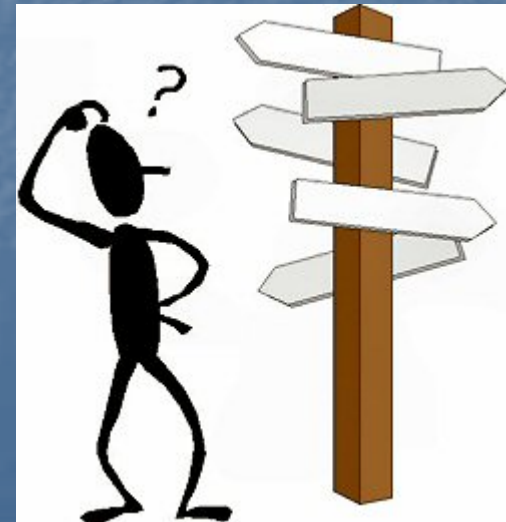
- Both systems reduced the cull rate from the tie stall barn.
- After the transition it comes down to managing costs of both systems.
- Management in either system is key!!!

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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