

Cross Ventilated Dairy Barns

- Presentation given at Midwest Rural Energy Council's Annual Rural Energy Conference March 2-4, 2016, La Crosse WI.
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Jon De Farm dairy facilities

Historical perspective

- 1990 - south barn – naturally ventilated, calving pen, D-10 milking parlor, north bunker silo, commodity shed
300 cows
- 1992 – hospital barn – naturally ventilated
- 1994 – north barn – naturally ventilated – 750 cows –
D-10 parlor at capacity
- 2000 – upper barns and D-16 milking parlor – 1700 cows
- 1994 to 2002 – added more circulation fans and soakers for
cow cooling – limited improvement in lower barns



- Too little air movement due to location, poor design and surrounding buildings – severe production drop in hot humid weather

Fans added to cross ventilate barns 1 & 2



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Open ridge closed & baffle installed to keep air movement down by cows





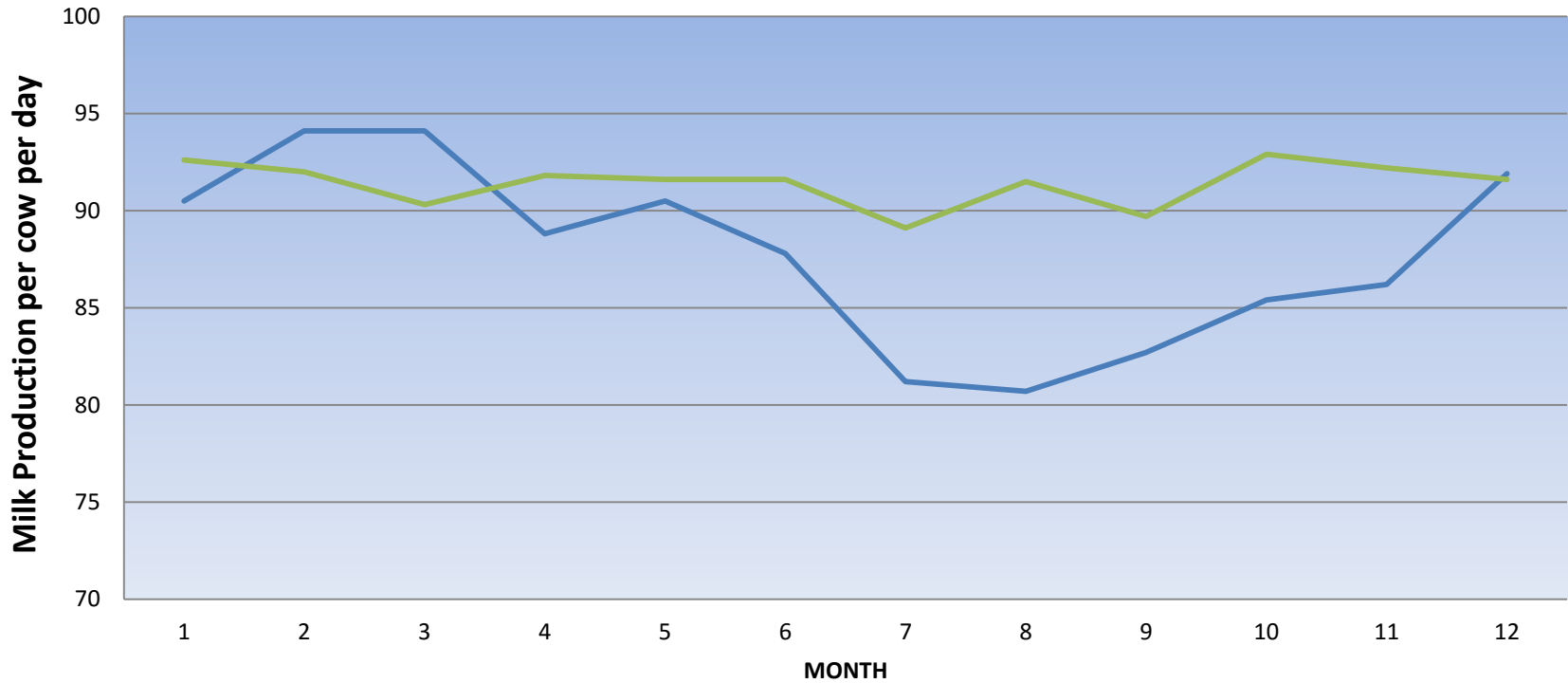
Automatic controller runs only fans needed to maintain temperature



Automated upper curtain to control winter ventilation

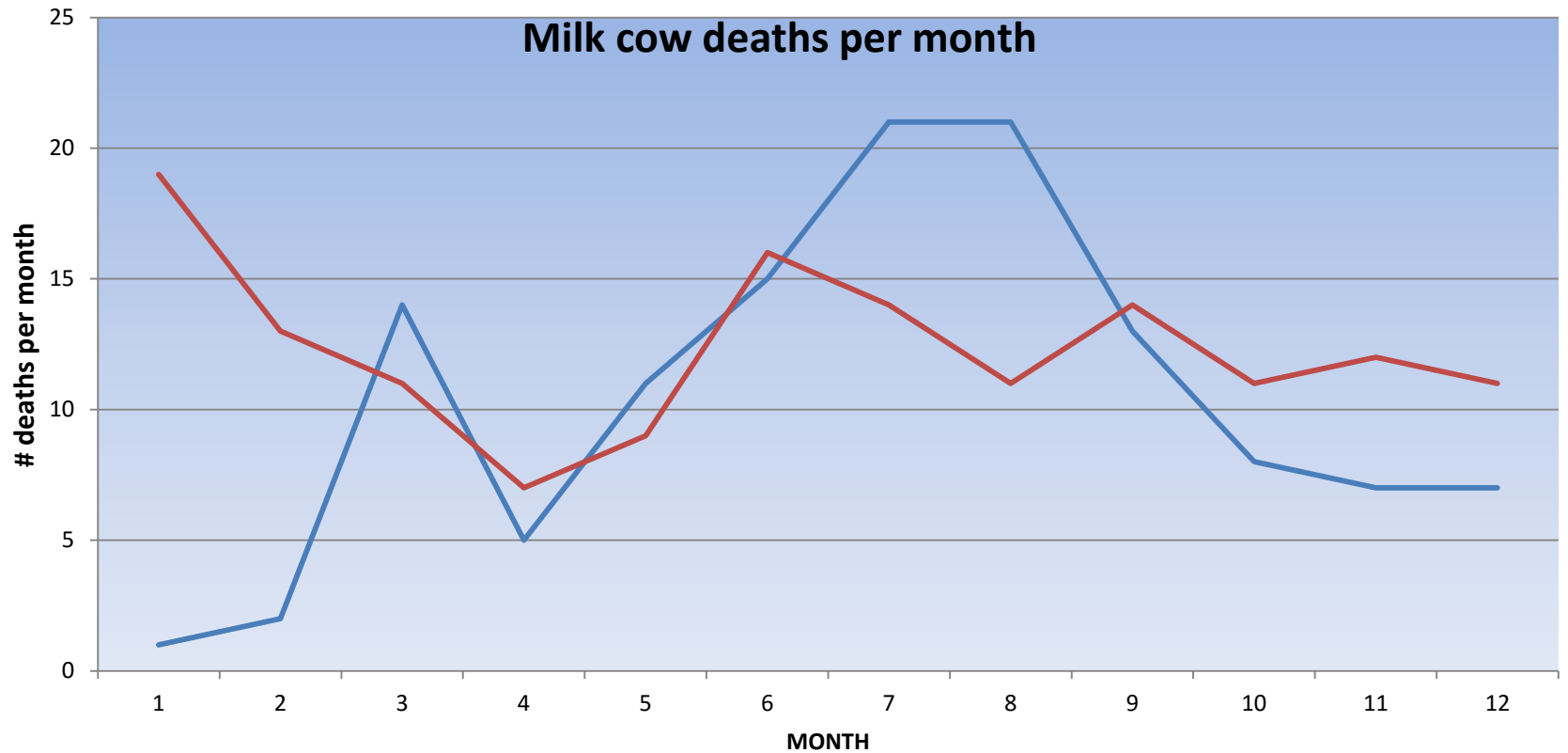
- Also added high pressure mister lines near air inlet to cool air by evaporation.
- Abandoned use because feed and bedding were getting wet and high maintenance demands
- Required switching from 125 to 650 Kw standby generator

Variation in milk production during season



Milk production per cow from 2006 – prior to cross ventilation

Milk production per cow from 2013 – after cross ventilation



Death loss per month during 2006 – prior to cross ventilation

Death loss per month during 2013 – after cross ventilation