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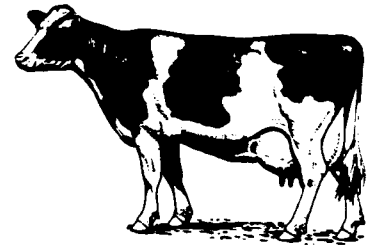
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College of Veterinary Medicine

VETERINARY CONTINUING EDUCATION



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# Dairy Update

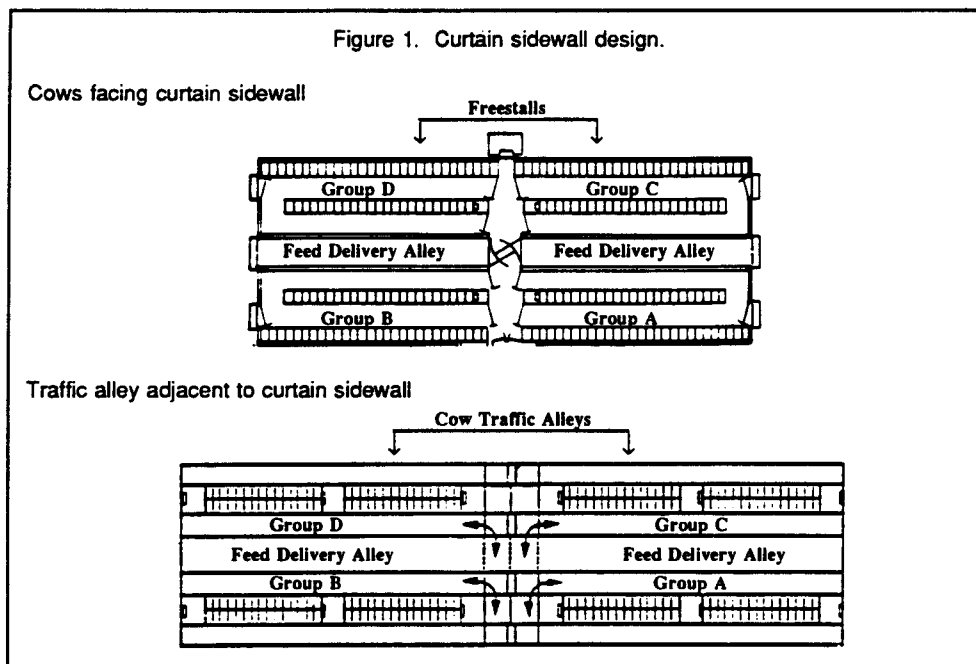
## Curtain Sidewall Characteristics

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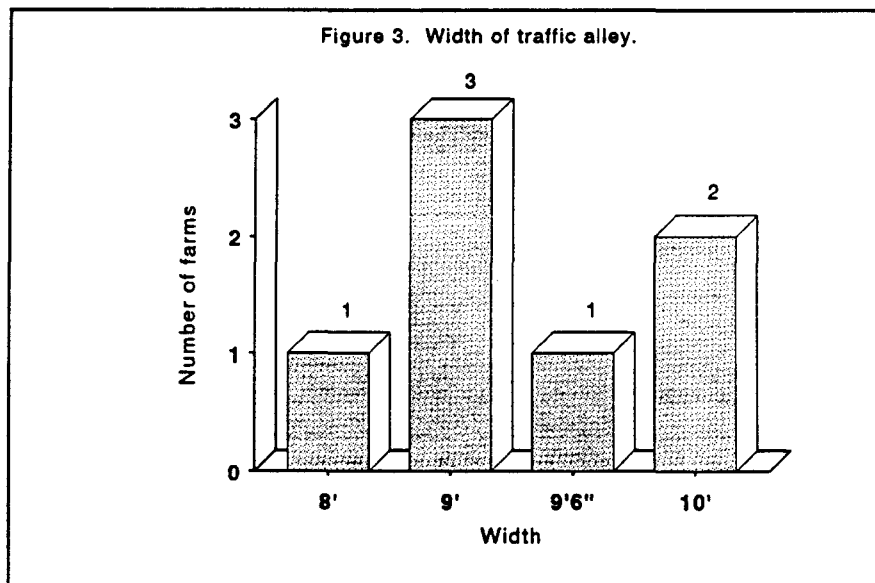
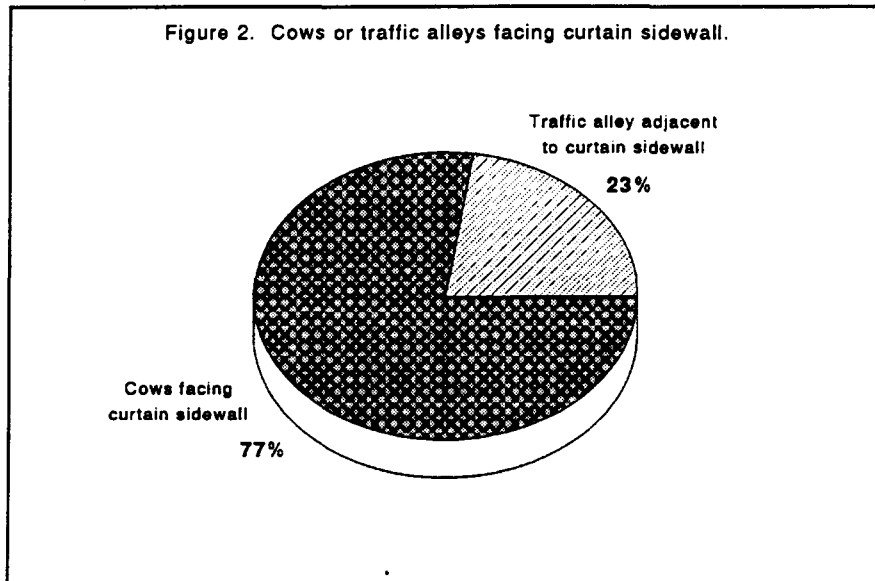
Curtain sidewalls are a relatively new concept in building design and construction of dairy housing facilities. In a survey study of 26 large (130-1,010 cows) dairy farms with curtain sidewalls in Michigan and Wisconsin, it was found that most curtain sidewalls had been installed in the late 1980's and early 1990's.

One question often raised in designing new dairy barns with curtain sidewalls is: Should cows face the curtain wall or should traffic alleys be adjacent to the curtain sidewall? Figure 1 shows examples of each design.



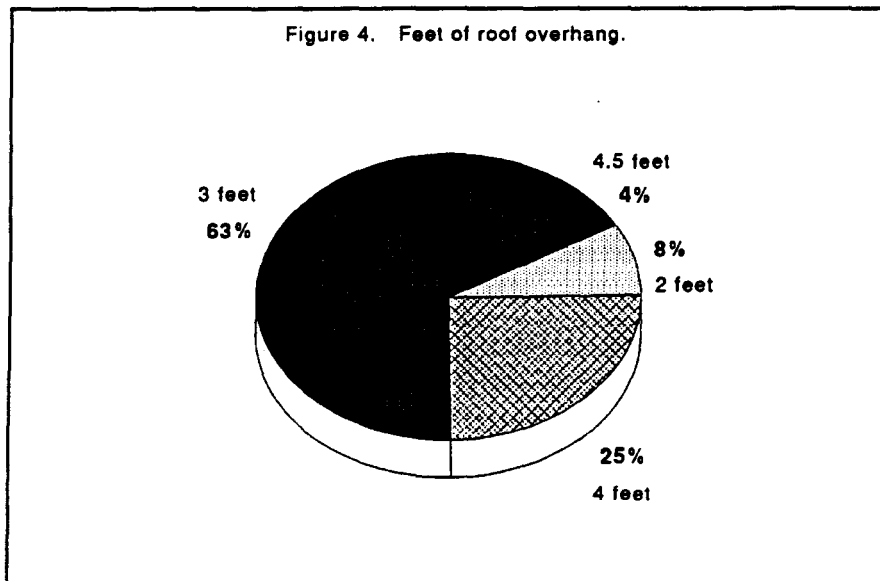
The study reveals that over three-fourths of farms surveyed had cows in free stalls facing the curtain sidewall (Figure 2).

Width of traffic alley adjacent to curtain sidewall was measured in the survey. Figure 3 shows that nine foot alleys were most common. Freezing of traffic alleys in winter was reported as a problem in 37.5% of herds surveyed.



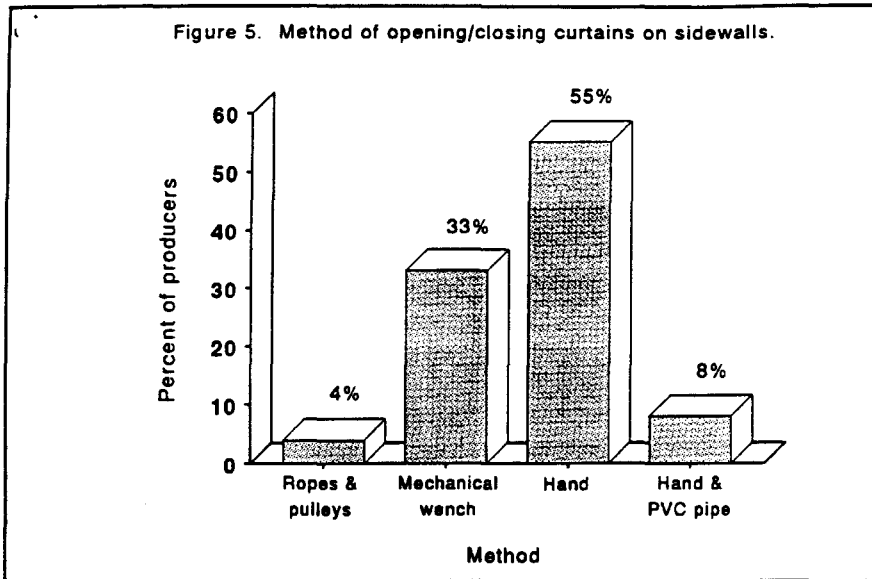
Roof overhangs were studied in the survey. Figure 4 shows the range of feet of the overhang. A three foot overhang was reported on 63% of farms surveyed.

Driving rain in free stalls during summer thunderstorms was reported as a minimal problem on 42% of the herds surveyed. Those with sand bedding expressed less concern than those with organic bedding in free stalls. Length of overhang appeared to have no effect on driving rain in free stalls; however, two-thirds of those responding on the survey with occasional rain in free stalls had barns facing north-south. This bears further study. Six farms reported problems with curtains. Four of the six farms had problems with cows chewing the curtains while one farm had a problem with birds, and another farm had mice chewing holes in curtains while rolled in the summer months.



Curtains are moved up and down, or down and up by a number of different methods. Figure 5 shows that 55% of farms surveyed used the hand method where two or three persons roll the curtain up or down at any one time. A mechanical wrench was used on 33% of the farms surveyed.

Most curtains are rolled up during the summer and down during the winter. They are rolled up like a carpet, tied with a rope or twine string, and stored during the summer at the top of the sidewall under the overhang. Thirty-three percent of the farms surveyed utilize a mechanical wench system so curtains could be adjusted during the winter as temperatures fluctuate.



Time of closing curtain sidewalls in the fall and opening in spring was studied in the survey of dairy producers in Michigan and Wisconsin. Figure 6 shows when farms surveyed begin to close curtains in the fall, and Figure 7 shows months when curtains are fully closed while Figures 8 and 9 indicate when curtains begin to open and are fully opened in the spring by those surveyed.

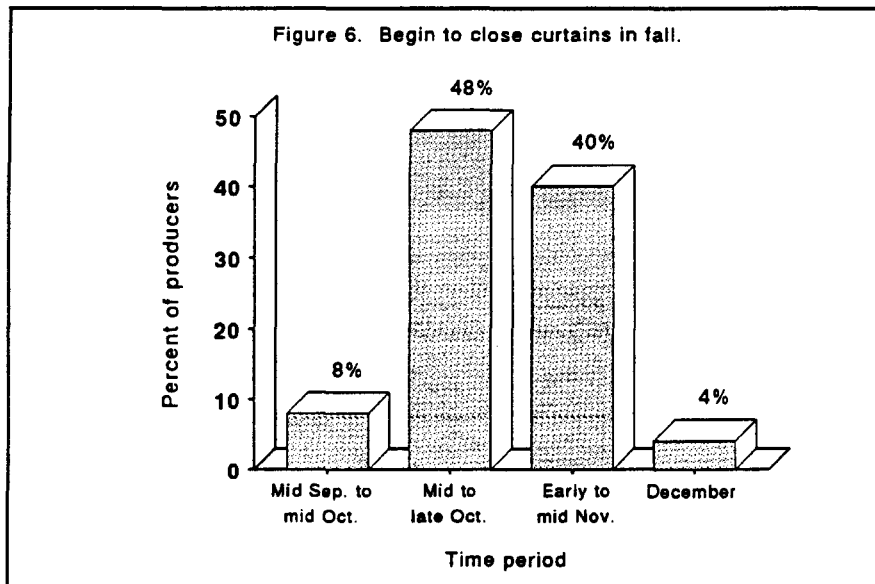


Figure 7. Curtains fully closed in fall.

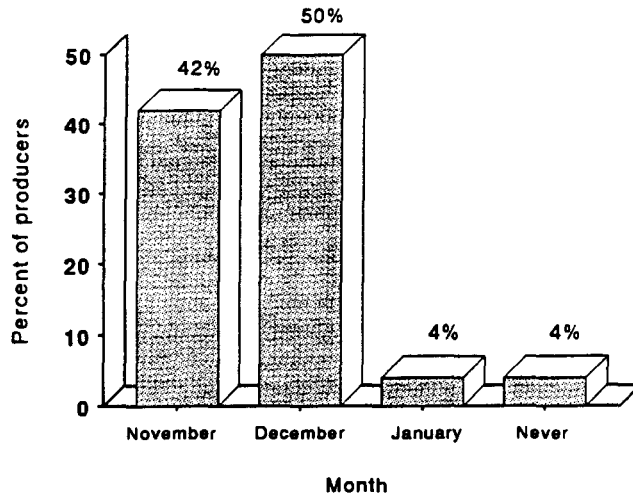
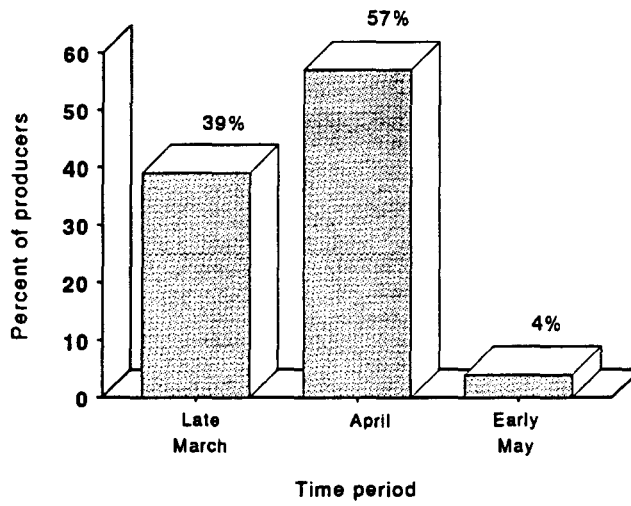
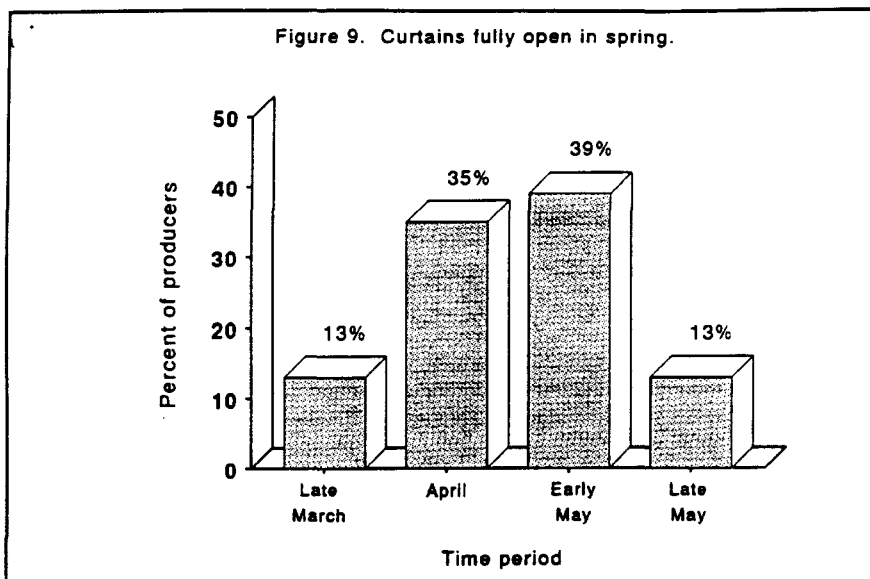


Figure 8. Begin opening curtains in spring.





Closing and opening of curtain sidewalls had a broad array of responses from farms surveyed. It was apparent in discussions with those surveyed that the majority close or open a sidewall in its entirety at any given date. The north and west sides of most curtain sidewall barns are closed first with the exception of Eastern Michigan (along Lake Huron) where north and east sides were often closed first. Wind dominance and storm direction appeared to be the difference. Exceptions to the above observations were the producers who had hand or power mechanical wenchers. They are most apt to adjust curtains daily or even a number of times on any given day in winter if wind and temperatures are rapidly fluctuating. A few adjusted curtains in severe summer thunderstorm periods.

The value of curtain sidewalls was addressed in the survey. Of the 24 responses, 23 were very favorable towards curtains with only one producer undecided on the value of curtain sidewalls. In February 1993, he moved into a six-row barn and had experienced ventilation problems with decreased milk production in a hot, humid spell in July 1993.

The following positive testimonials were given by producers:

<u>Testimonial</u>	<u>Number of Times Reported</u>
Better dry matter intake	2
Better air movement and improved ventilation	15
Cost savings	6
Healthier cows	1
Increased production, fewer summer slumps	2
Cow comfort	1

Total equals more than 24 because several producers reported more than one positive benefit in use of curtains.

One producer reported that his milk production increased more after installing curtain sidewalls than with a total mixed ration.

In summary, the large dairy herd producers surveyed in Michigan and Wisconsin reported a definite liking for curtain sidewalls. Testimonials from producers indicate curtain sidewalls resulted in: 1) better ventilation; 2) improved cow health; 3) higher dry matter intakes; and 4) increased milk production. Survey data would support curtain sidewalls as a management scheme that can offer some very quick and significant cow responses.