

Ventilation solutions to combat heat stress

“Abbi-Aerotech, the company that invented cross ventilation in dairy barns!”

Cross ventilation

Abbi-Aerotech could well be considered the inventor of the cross-ventilation system. We introduced this system in 2015, and today we see that this concept is increasingly being applied across the globe.

This is no surprise to us! Cross ventilation is the only system that cools your cows whilst supporting and improving the natural ventilation in your barn. This leads to a cooling airflow in the barn which draws fresh air in through the side walls and disperses the heated ‘used’ barn air through the ridge. The air quality in the barn is significantly improved, which in turn has a highly positive effect on your cattle.

Cross ventilation cools your cows much better than other ventilation systems because the air flows along the length of the animals (in the cubicles and at the feed fence). As a result, the cow’s body heat dissipates more quickly and over a larger body surface area. However, there must be enough natural ventilation (through the side walls and the ridge) to allow for sufficient air exchange.

Fans can be mounted on both sides of the barn, provided the ridge vents are large enough. The fans are then placed at regular intervals along the inside of the barn in front of the curtain. The distance between the fans depends on the type of fans used (see page 7). Depending on the barn width, an additional row of fans can be installed.

The fans need to be installed facing downwards at an angle measuring approx. 19 degrees to generate optimal airflow. Under normal circumstances, this angle is reached as soon as the fans are running at full speed.

In practice, about as many fans are needed for cross ventilation as are typically required for longitudinal ventilation. However, mounting the fans is much cheaper, which means lower installation costs. Moreover, you will no longer have additional obstacles hanging in your barn.

All this makes cross ventilation the best ventilation system for your barn!



Abbi fans:

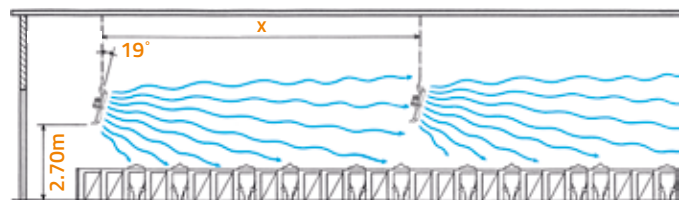
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Longitudinal ventilation

If you cannot implement cross ventilation (because your barn roof is too low, for instance), or you want to cool your cows by just adding air circulation to your barn, then longitudinal ventilation would be your next option to consider.

Here, fans are mounted behind each other along the barn’s length. In contrast to the cross-ventilation concept, fresh air is not actively drawn into the barn.

Tests have shown that for longitudinal ventilation, the best results are achieved when the fans are placed both over the walkway along the feed fence and the cubicles themselves. As with cross ventilation, the ideal airflow is achieved when the fans run at full speed. The air speed and the fan’s throw determine the distance between the fans in the barn.



Abbi fans:

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