



Which areas should I prioritize for cooling cows?

1. Holding milking pen
2. Transition barn/maternity areas
3. Fresh cow barn
4. High production cows
5. Late lactation cows



What design features should I include in my barn?

1. Low side walls with adjustable curtains – improves airflow through the barn
2. Open ridge – removal of hot air
3. Avoid translucent roof sheets – prevents heating by solar radiation
4. A north-south barn orientation is considered optimal for reducing exposure to the sun and improving ventilation



The effective cooling velocity (ECV) of air at cow level is 2.2-2.7m/s



Where should I position the fans?

1. In the holding milking pen (details apart)
2. Above the centre of the stalls
3. Above the feed line

How should the fans be mounted?

1. 2.5m from the stall surface
2. ECV fans should hang at a 25-30 degree angle from the horizontal position
3. Panel fans should be mounted at a 30 degree angle from the vertical position
4. Distance between fans = 10x the width of the fan

What rate of air exchange is required in the barn?

1. Winter >5 air changes per hour
2. Summer 40-60 air changes per hour



How aggressive does my cooling strategy need to be?

1. THI 68-71 – ECV only
2. As THI increases, intervals between soaking cycles decrease. (Combine soaking with fans for the best effect and make sure droplet size is adequate to penetrate the coat to the skin)
3. Misting or high pressure fog should only be used below 55-60% humidity

How much water do I need to apply when soaking cows?

1. Soaker nozzles should deliver 2-4 litres of water per minute
2. Soaking time should be 1 to 2 minutes
3. Intervals between soaking should be reduced as temperature increases. At 28 degrees the intervals should be 6-7 minutes



Water intake increases during hot weather so ensure the following;

1. Locate water drinkers at the exit of the milking centre
2. Trough space should be sufficient to accommodate the number of cows leaving the milking centre every 10 minutes
3. 10 cm of linear water trough space per cow in the barn
4. Ensure water supply can meet the peak water flow demand during summer



What other factors do I need to consider?

1. Outside feed areas should be shaded
2. Open sided barns should have additional shade provided
3. Effective cooling can be achieved by soaking cows in the holding pen prior to milking and should be combined with fans
4. Misters should only be used in low humidity environments
5. Purpose built soaking and cooling pens can be used to cool cows between milkings