Zinpro® Guide to Keeping Cows Cool





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?

- Low side walls with adjustable curtains improves airflow through the barn
- 2. Open ridge removal of hot air
- 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?

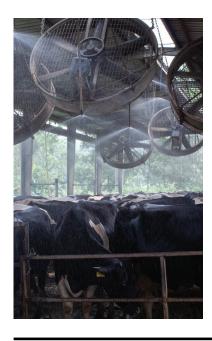
- 1. In the holding milking pen (details apart)
- 2. Above the centre of the stalls
- 3. Above the feed line

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
- 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)
- Misting or high pressure fog should only be used below 55-60% humidity

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

- Soaker nozzles should deliver 2-4 litres of water per minute
- 2. Soaking time should be 1 to 2 minutes
- 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
- 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
- Purpose built soaking and cooling pens can be used to cool cows between milkings