



ABATTOIR HUMIDIFICATION

Reducing weight loss during
primary chill down

Humidification and Evaporative Cooling



REDUCING CARCASS WEIGHT LOSS

Maintaining 90-95% relative humidity will reduce weight loss during primary chilling



Reduced weight loss

The amount of weight lost from a carcass during primary cooling is affected by many factors, including the type of animal, the meat's fat content, the type of refrigeration process and the quality of the equipment. Overall weight loss typically varies from 1.9% to 2.8%.

The majority of the weight loss occurs early in the chilling program when the meat is at its hottest and the store temperature is low. By maintaining a high humidity during the initial cooling, moisture loss from the carcass is reduced.

Increase profits

For a store holding 300 head of cattle, a 2.5% weight loss during chill down would amount to a loss of around 1,875kg.

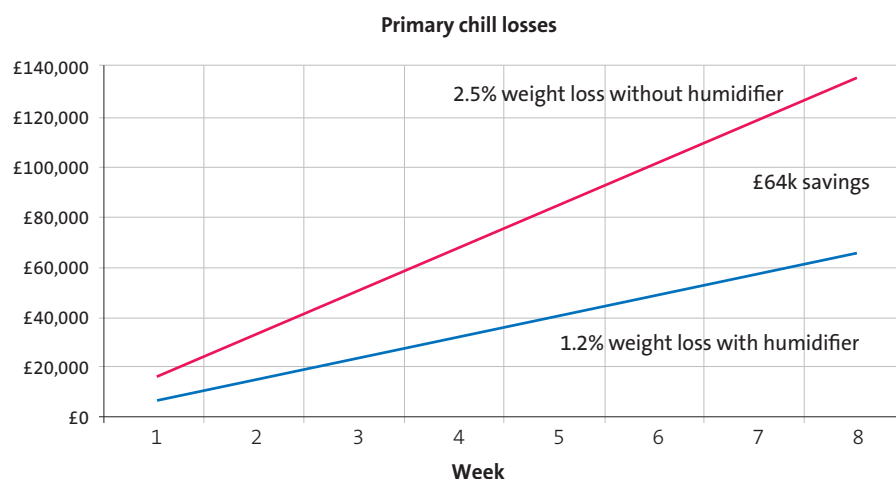
Assuming an average cost of deadweight cattle is £1.65/kg, this loss totals around £3.1k per day per store.

With the correct humidification, chill down weight loss could be reduced from 2.5% to around 1.2%, reducing this daily loss to £1.5k and offering an average profit increase per 24hr chill cycle of £1.6k.

Additional benefits

A higher humidity in the chill down area also improves the thermal transfer of heat from the carcasses to the atmosphere. This results in a faster chilling time, which in turn reduces the load on the refrigeration system and can lead to a reduction in energy consumption of up to 10%.

In addition to the reduced energy bills, as the carcasses are reaching a lower temperature faster, microbial growth on the meat is also inhibited.



Based on 300 beef carcasses per day, 5 days per week, £1.65/kg

JETSPRAY ABATTOIR HUMIDIFIER

Hygienic chill store humidification without wetting



The JetSpray humidifier has been developed with hygiene as a principal design factor, making it ideal for use in food processing facilities. A reverse osmosis water filter removes all minerals from the supply water before it is treated with ultraviolet sterilization to kill any remaining micro-organisms. In addition, the

system will regularly run purge and flush cycles to ensure water cannot remain in the humidifier to stagnate.

The humidifier consists of rows of precision engineered nozzles that combine compressed air and water to produce a spray that has a droplet size of just 7.5microns. The nozzle line is



mounted directly in front of the evaporator coils of the refrigeration system and introduces moisture to the air stream as it enters the chill store.

The extremely fine spray ensures the moisture is absorbed by the atmosphere and prevents wetting inside the room. The flow of compressed air also avoids the possibility of drips. Tiny needles inside the nozzles act as a self-cleaning mechanism and prevent blockages making the system extremely robust, requiring very little maintenance.



A map of Europe with several blue Condair logos pinned to various locations across the continent, including the UK, Scandinavia, Germany, France, and Italy.

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Global expertise, local solutions

Condair has manufacturing facilities in Asia, North America and Europe as well as sales operations in 15 countries and distributors in over 40 more.

The company has been serving the global abattoir industry for many years and is highly experienced in creating the ideal humidity for primary chilling.

If required, Condair's regional R&D departments can work with a client's product development team to create custom solutions.

Alongside system design, manufacture and supply, Condair's specialist humidification engineering teams offer installation, commissioning, maintenance and spares supply.

System maintenance from Condair provides the manufacturer's expertise directly on-site, ensuring critical applications have the exceptional support they require.

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