



Steanbow Farm

Shepton Mallet

PROJECT: Steanbow Farm
LOCATION: Shepton Mallet, Somerset
PROJECT BRIEF: Further reduce temperatures with a 'Pre-Vent' ventilated Poultry house
HYDOR PRODUCTS INSTALLED: Hydor Evaporative Cooling System



The Hydor evaporative cooling system has been installed in two sheds holding 54,000 broilers on Steanbow Farm in Shepton Mallet.

Originally developed especially for poultry production, Hydor evaporative cooling is a simple but highly effective method of reducing temperatures now used in a wide variety of agricultural, horticultural and commercial applications.

Surrounding air is cooled as microscopic drops of water are emitted from a series of nozzles under high pressure. The heat generated by the many birds, in combination with the mechanical extraction system, means that the mist is evaporated and the air is not over-saturated. On hot days, the system is capable of lowering temperatures by up to 10°C, potentially reducing mortality rates by 25%.



The two poultry houses already utilise the Hydor 'Pre-vent' system but required further cooling to reduce the risk of bird mortality. The system operates differently to conventional ventilation systems inasmuch as no roof extractor units are fitted in the two houses. Ten impeller fans are installed in the walls down each side of the building with a louvre shutter at low level between each fan. On the ceiling above each fan four nozzles are installed one metre apart. The fans drive both air and mist along the roof of the building where it meets the heat generated by the birds. The mist evaporates, thereby reducing the temperature of the air which falls to the level of the birds on the floor. The air pressure within the building forces the cooling air across the floor and out of the low-level louvres on the side walls.

High pressure evaporative cooling differs from low pressure misting or fogging systems that wet animals in order to cool them - a process which is especially unsuitable for poultry. In an enclosed area, the water droplets have the added benefit of removing small particles from the air. This makes the system an effective method of controlling levels of dust, pollutants, odour and is beneficial for cleaning and disinfection purposes.

Owner of Steanbow Farm, Mr. F. Christensen, says:
"The cooling capacity of the Hydor system is very good. The reduction in excessive temperature was impressive from the outset. Within five minutes, the temperature had dropped from 30°C to 25°C."



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"We have vastly improved conditions for the birds in hot weather and are reducing our energy overheads at the same time. We are so pleased with the system, plans are currently in place to install the system in a further two buildings. We are also considering using it within the dairy housing here on Steanbow Farm," says Mr. Christensen.



The Hydor evaporative cooling system is highly economical with low levels of water and energy consumption. Energy usage by electric fans is reduced because the fans can be run for shorter periods and less frequently because of the lower temperatures created. The system is modular and easily adaptable. Non-drip nozzles prevent unwanted dampness and puddles.



The improved climate promotes food intake and higher growth rates are therefore achievable. The cooling can be used in short, twenty-second bursts in the winter months to replace humidity taken out by heaters, without reducing the temperature, which will improve the quality of the produce, particularly during the first two weeks of the cycle when the houses are heated to high temperatures.

The system is easily installed on site and is compatible with existing control systems or alternatively can be operated manually.

The Hydor Evaporative Cooling brochure is now available direct from Hydor or downloadable at www.hydor.co.uk

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Case Study - Evaporative Cooling- Steanbow Farm

