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HATCHERY/BREEDER TIP . . .

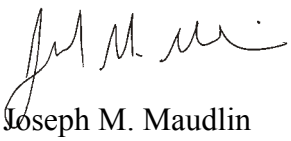
STEAM HUMIDIFICATION FOR HATCHERIES

Steam has been used for decades for providing humidity in many types of industrial and home environments. Until recently, it has been considered too expensive for hatchery use, and therefore has not been used. Currently, steam as a hatchery humidity source is more affordable and is being used in some larger hatcheries.

There are many ways hatcheries are currently humidifying their setter, hatcher, egg, and chick rooms. The type of equipment selected depends on the size of the room, air movement capabilities, and ceiling height. A problem most humidification systems have is that unevaporated water falls out of the air and onto the floors and equipment, making adequate humidity control very difficult. This can be a significant problem in the summer when nighttime ambient relative humidity is frequently over 90 %, and daytime humidity is also high due to the use of evaporative cooling systems. The reason floors become wet with some humidifiers is that the droplet sizes are relatively large, ranging from 2 to over 100 microns in diameter. This is further aggravated with the use of evaporative coolers that send moisture into the room air that is already heavily laden with moisture. The large droplets from most humidifiers will not be easily evaporated in these conditions. Steam is ready-made water vapor with miniscule droplets and can be used to reduce excessive wetting. Steam is also hot and will add a small amount of temperature to the room, which can be an advantage in the winter. During the summer, the added heat is generally not a problem because there is so much humidity in the room from evaporative coolers that only small amounts of steam humidity are required. The table below provides the sizes of many common items including droplet sizes for conventional and steam humidifiers. It should be noted that the smallest droplet size attained with conventional humidifiers is about 2 microns in diameter, whereas steam (vaporized water) has a droplet size of only 0.0006 microns. An added advantage of steam is that it is sterile. This practically eliminates the potential of introducing contamination through the humidity system.

Is Steam Humidity Right for Your hatchery?

Given the capital cost required for steam humidifiers, it depends on the age of the other equipment. If HVAC equipment has been recently installed and the heating system does not give the necessary heat to maintain humidity and temperature levels in the winter months, then steam is a very viable option. It will provide the water vapor and the energy to vaporize that water in one package. However, if older roof top units (15 years or older), are in use or there is a preference to move away from evaporative coolers and furnaces to a packaged AC and furnace type unit, it may be more viable (and cost effective) to use higher heat capacity furnaces in the packaged roof top, and use spray or centrifugal type humidifiers. For example, most sizes of roof top furnaces come with a high and a low heat capacity choice at the time of ordering. The difference in price is only a few hundred dollars depending on the size of unit. It is much cheaper to install a high heat capacity furnace and use centrifugal or spray humidifiers, than it is to use a low heat furnace and a steam generator. In the end, the choice is up to the customer, and time will tell if steam humidity is here to stay or juts a passing fad.



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Consult with your poultry company representative before making management changes

"Your local County Extension Agent is a source of more information on this subject."