SETTER ROOM

Use water loss data to assess setter function

The water loss of hatching eggs will affect hatchability and chick quality.

The ideal weight loss from 0-18 days is between 10.5-12.5%. The main factor affecting incubation water loss is the humidity of the air in the setter.

Most hatcheries monitor water loss and use it as an effective management tool to fine tune setter humidity programs.

But sometimes, the water loss varies between machines or in different hatches over time, even when the setters are all running with the same humidity programs and set-points.

When this sort of variability is seen, it is usually because the humidity levels achieved in the setter have been affected by factors such as the humidity of the fresh air coming in to the setter, its ventilation rate or the functionality of the humidifier inside the machine. If one of these factors has changed even slightly, or is not working properly, water loss may change.

So we can also use water loss data to assess the functioning of a hatchery.

Here are some examples:

1. **This was in a hatchery located in a temperate climate. The air supply to the setters was not humidity controlled. But warm air in the summer can hold more moisture, so actual incubation humidity is much higher and the eggs lose less weight (see Chart 1).**
2. **A different hatchery, again in a temperate climate. This hatchery had four setter rooms. Room 1 held setters 1-6, room 2 setters 7-12, room 3 setters 15-19 and room 4 setters 20-24. Setter rooms 1 and 3 shared one exhaust plenum. Setter rooms 2 and 4 shared another one. After the exhaust fan was changed on the plenum for setter rooms 2 and 4, incubators in these two rooms were ventilated more than the others, causing relative humidity to be lower and as a result the eggs lost more weight (see Chart 2).**
3. **A third hatchery, located in a hard water area. Water for humidification was taken directly from the tap. In Setter No.6, the nozzles were blocked due to the hard water (see Figure 1). As a result, incubation humidity was lower and the eggs lost much more water (See Chart 3). The three examples in this tip show how the local environment can affect humidity in different parts of the hatchery. If the issues are not identified and corrected, water loss will not be in the optimum range, and hatchability and chick quality will suffer.**

Figure 1 *Blocked spray nozzles in setter No.6*

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Use water loss data to assess setter function *Continued*

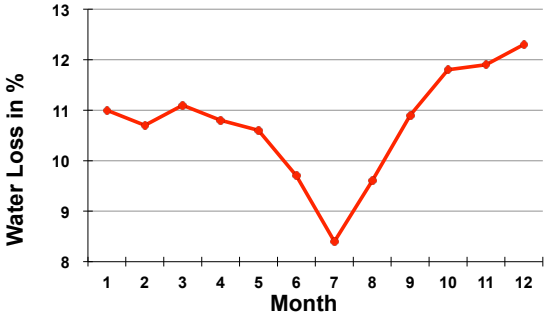

Chart 1

Water loss profile in a hatchery showing the effect of season when the air supply is not humidity controlled

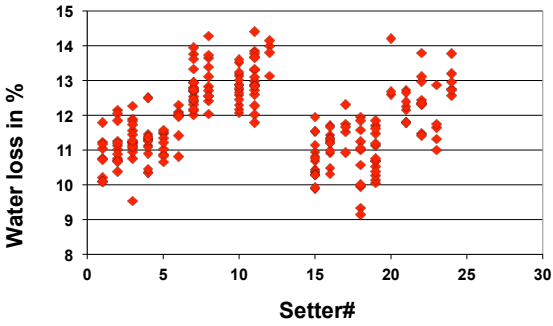

Chart 2

Water loss in different setters due to differences in exhaust plenum ventilation

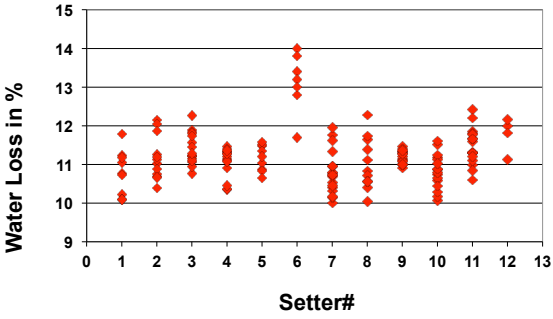

Chart 3

Eggs in setter 6 lost more water due to low humidity

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