Chapter 10 - TRANSITIONAL PHASE VENTILATION

Fall and spring are transitional seasons when outside temperatures can vary considerably from day to night, with differences of 30-40°F often seen. Such large fluctuations in daily temperatures can make it difficult for growers to ventilate their poultry houses properly. In order to achieve optimal bird performance it is important to maintain a constant internal temperature, but as outside temperatures change, growers must modify their management systems throughout the day. Ventilation that is setup to handle hot weather during the day is often not suitable for the colder outside temperature drops that occur in the evening. The challenge is two fold – determining when to transition from hot weather to cold weather mode ventilation (and vice versa) and making smooth transitions so that the birds are not subjected to any drastic changes in temperature. It is important to introduce temperature changes gradually, especially when the birds are young.

When using tunnel ventilation it is important to remember the wind chill effect of the air speed traveling over broilers. When daily temperatures are variable, tunnel ventilation is needed (depending on broiler age) to cool the broilers during the day when outside temperatures can climb in the 80s. However, as outside temperatures drop into the 60s and below at night continuing to run tunnel ventilation can have a negative impact on broiler health and performance. It is important to monitor broiler comfort during these transitional times so that ventilation can be adjusted as outside temperature changes. Regulating house temperatures during transitional seasons can be difficult, but monitoring broiler comfort along with the house temperature will help to determine when to adjust ventilation in response to changing outside temperatures (see Figure 10.1 and Figure 10.2).

Figure 10.1 - Typical behavior of chicks under spot brooding.

A. Temperature just right
B. Temperature too low
C. Temperature too high
D. Drafty
Figure 10.2 - Typical behavior of chicks under whole house brooding.

A. Temperature just right
B. Temperature too low
C. Temperature too high