

Ventilation in Housing for Small and Backyard Poultry Flocks

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Ventilation is the exchange of air between the inside and outside of a poultry house. The main function of a ventilation system is to maintain adequate oxygen levels while removing carbon dioxide, moisture, dust, and odors. During summer, ventilation also is important for removing heat.

To achieve an effective ventilation system for your poultry house, consider both house placement and house design.

House Placement

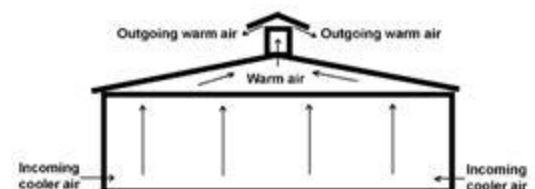
The location of a poultry house can have an impact on the effectiveness of its ventilation system. In northern areas where it is very cold much of the year, the house should be positioned to reduce the amount of north wind exposure. In southern areas where heat is an issue, the house should be positioned to take advantage of maximum southern prevailing winds to help provide as much natural ventilation as possible.

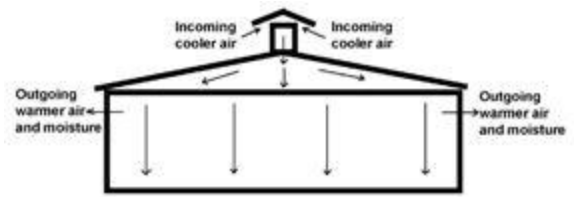
House Design

An effective natural ventilation system in a poultry house relies on the laws of physics to generate air movement. In particular, two important concepts are the facts that warm air rises and that warm air holds more moisture than cold air. In summer, the chimney effect causes natural ventilation to occur in a poultry house that has a ridge or eave opening in the ceiling. A constant flow of air exists if the outside temperature is cooler than the temperature at bird level inside the building (see Figure 1). During winter, the amount of fresh air brought in should be just sufficient to allow for adequate air exchange. The incoming air enters through the roof of the building and warms as it drops toward the floor (see Figure 2). Because the warmed air picks up moisture, the ventilation system must include a method for removing this air from the building to allow the air flow cycle to continue.

Fig. 1. Concept of summertime ventilation. Source: David Frame, Utah State University.

Fig. 2. Concept of wintertime ventilation. Source: David Frame, Utah State University.





For More Information

[Housing Backyard Chickens](#), David Frame, Utah State University