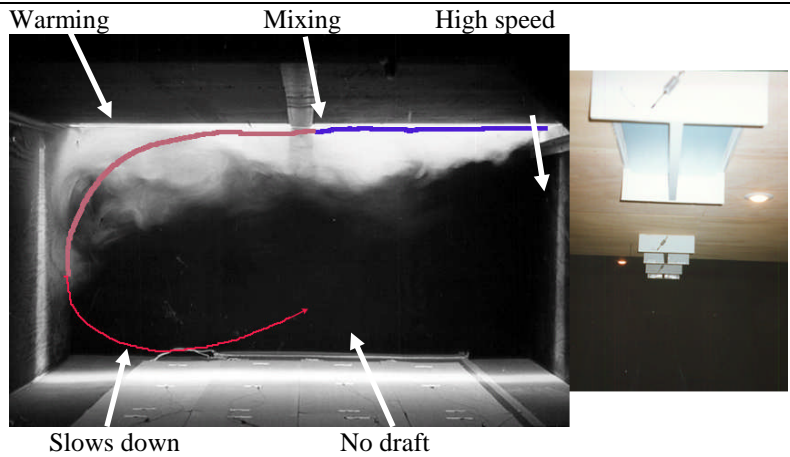


VENTILATION ISSUES

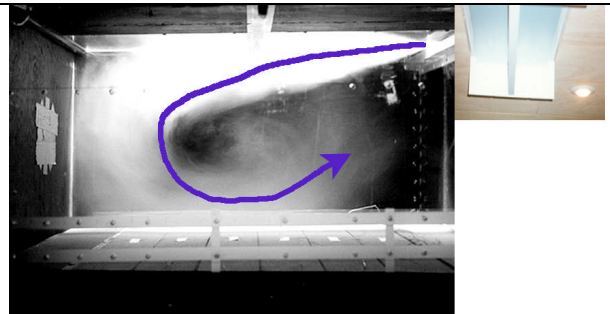
Ideal ventilation



When the ventilation is ideal, the air will have a rotation pattern with the following properties:
 good mixing of the air,
 warming of the cold incoming air,
 reduction in speed and no draft,
 together with air exchange.

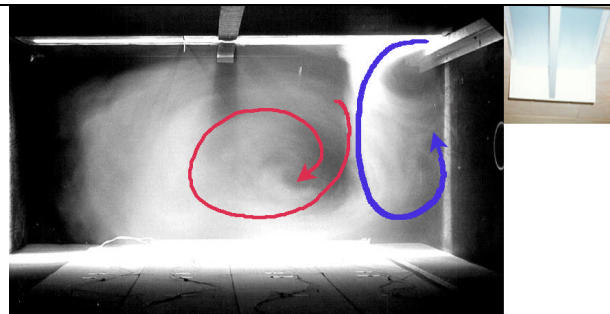
Defecation Eating/exercise Sleeping ← Pig's behavior pattern

The ventilation can be excessive – excessive operating pressures



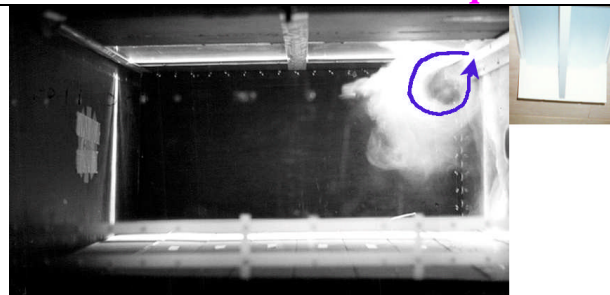
If the operating static pressure is too high the animal level airspeeds can be excessive especially for younger animals. This creates a draft as the air has no time to mix, warm or reduce its speed. Defecation patterns are chaotic.

The ventilation can be too slow – air does not possess sufficient speed



The air does not possess enough energy to allow mixing, the cold air falls rapidly, resulting in drafts near the inlet. This is characterized by condensation around the inlet. The poor mixing results in poor air quality. Defecation patterns are chaotic, but mostly will be near the inlets.

The ventilation can be inadequate



If the inlet energy is very low, inlet air tends to circulate very near the inlet. Here the ventilation completely fails with no mixing, warming or air exchange. This results in condensation and poor exchange. Defecation patterns are chaotic.

In ideal ventilation set up, there can be problems, some examples:

Nearly all are associated with poor maintenance and management of the ventilation system

Obstructions – on the outside

On many farms the air that enters the building, enters via the attic. However, if the air cannot get into the attic, it cannot get into the room. It is imperative that the daylight is clearly visible when you examine the entry areas. Likewise inlets must be able to work as required



Sofits blocked with dust



Insulation blocking soffit



Fan louvers shut with dirt

Internal obstructions to air flow



Lights diverting air patterns



Ceiling obstructions



Power board obstructing air flow

Inadequate static pressure



Broken louvers

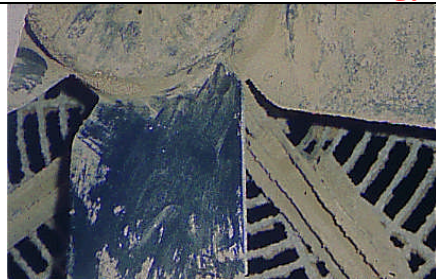


Broken/open windows/doors



Poor curtain maintenance

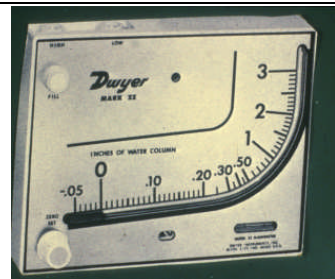
Air has insufficient energy



Dirty fan blades



Poor belt drive



Inadequate static pressure