H26 – Air Quality

Tight covers and solid floor under covers

Solid floor in inspection alleys

A moderate slot is acceptable

Pump and pipe for measuring ammonia

A good air quality:

1. No mess on the solid floor.
2. Solid floor under covers.
3. No pit ventilation.
4. It is possible to increase the ventilation in cold weather.
5. The heat supply is working.
6. The settings of the minimum ventilation are correct.
7. The humidity controller is working.
8. Passages/alleys must always have solid floor.

Check the air quality by:

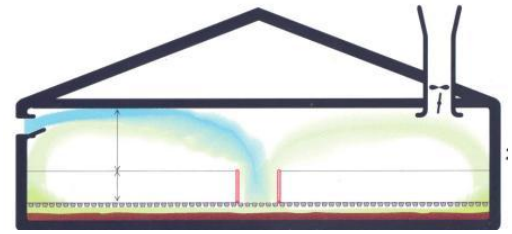
Sitting down at the back of the pen (the pigs' lying area) and sense the air quality.

Checking / recording the ammonia concentration in the lying area and the exhaust units.

Limit values (CIGR standard):

Gas	ppm
Carbon dioxide, CO_2	3,000
Ammonia, NH_3	20
Sulfur brine, H_2S	0.5

Mess in the pen



Pit ventilation

Mess may be attributed to

- The temperature is generally set too high on the ventilation control (see H21 - Temperature).
- The sensor is located above the inspection alley where there is no heat production. Place it in the pen as close to the pigs as possible.
- Closed pen partitions, in particular in facilities with diffuse ventilation, will produce a cushion of bad air in the lying area.
- Draught in the lying area and along pen partitions (see H25).
- No or inadequate sprinkling (see H20).

Possible causes of pit ventilation

- Too little volume under radiant ventilation (less than 0.3 m headroom per meter the air is going into the room, measured from the upper edge of the pen partitions).
- Slats in the inspection alley.
- Fully slatted facilities with no manure curtain.
- Pen partitions not placed on top of manure wall.

	Additional comments – Air quality
1.	Mess in a pen may be caused by intake of cold air / draught and/or heat stress among the pigs.
3.	Pit ventilation will occur if, for instance, the production of heat from the pigs draws up contaminated air from the slurry pits. This is often the case in pens with drained floor or slatted floor under the cover. Pit ventilation is detected by blowing smoke down through the slats in the inspection alley or in the dunging area and then checking if smoke appears in the lying area. This requires a smoke machine or a smoke ampoule with a rubber ball. In facilities with fully drained floor and inspection alleys, pit ventilation can be reduced by installing a manure curtain approx. 1.6 m into the pen.
4.	By installing covers in the pens or access to an additional heat source.
5.	Defect / leaky covers result in a draught in the pens and a temperature under the cover that is too low. In weaner facilities there must be a heat supply corresponding to 20 W per place unit divided between floor heat and room heat, respectively. The requirement is somewhat lower in finisher facilities, but extra heat is at all times a good insurance. For more information on heating, see H29.
6.	Minimum ventilation and/or heat supply is too low (check controller).
7.	Some types of humid controllers include a wet/dry thermometer. In that case, it must be checked that there is water in the container and that the fluid is intact.