

How to start a poultry farm (Part 5)

In part 5 of our poultry series, we take a closer look at air composition as part of a healthy environment for chickens. The air composition in a poultry house consists of moisture and other toxic gases. Moisture is the concentration of small water particles accumulated in the air.

Moisture is produced by the atmosphere (humidity) and the chickens through droppings, respiration and egg production.

How much water is produced by the chickens, will depend on:

- **The body mass of the chicken.** Bigger chickens consume more water than smaller chickens and will therefore produce more water
- **Type of feed.** Pellets will produce more water than mash, because of their formulation
- **Salt contents of the feed.** If the salt content is high, the chickens will drink and excrete more water
- **Air temperature and humidity.** If it is hot, the chickens will consume more water. You must also remember that the humidity in the air will increase during rainy days. The humidity is always higher at the coastal areas.

The water produced by the chickens, increase the humidity of the air in the house. The amount of moisture in the house will play a major role on the quality of your litter.

Why do chickens need oxygen?

Oxygen is the most important gas in the air composition of poultry houses. Without oxygen no living organism can survive.

Toxic gases found in a poultry house

- Carbon dioxide is secreted when chickens breathe. It can also be produced with artificial heating if an open flame is used
- Methane is produced when droppings and other decomposing material ferment
- Hydrogen sulfide are found in poultry houses
- Ammonia is produced through the secretion of urine and wet litter. This is one of the most important gases produced in chicken houses. It plays a major role in broiler production. The biggest problem with this gas is that it has a negative influence on the chicken's breathing organs, which will have a major influence on your production factors such as mortality, growth rate and feed conversion ratio. Ammonia also causes skin damage and breast blisters to the chickens. These blisters can be visible on the carcass of a chicken. This damage will have a negative influence on the selling price of your chickens.

How can I manage the gases in the chicken house?

Bring oxygen in and remove toxic gases way of airflow (ventilation). Look out for your next *Ubisi Mail* to learn more about ventilation in the chicken house. **UM**

Poultry farming:

Pluimveeboerdery: Suurstof | Ufuyo lweenkuku: Ioksijin

Ukufuya izinkukhu: i-oxygen | Ho rua bomaditshibana: Oksejene



- All living things need oxygen from the air that we breathe, to stay alive.
- Alle lewende wesens het suurstof in die lug wat ons inasem, nodig om aan die lewe te bly.
- Zonke izinto eziphilayo zifuna ioksijin kumoya esiwuphefumlayo ukuze zihlale ziphilile.
- Zonke izinto eziphilayo ziyawudinga umoya i-oxygen osemkhathini nesiwuphefumlayo ukuze zihlale siphila.
- Dintho tsohle tse phelang di hloka oksejene ho tswa moyeng oo re o hemang hore di dule di phetse.
- In a chicken house, toxic gases are formed from chicken droppings, urine, wet or dirty grass bedding and also from artificial heating.
- In 'n hoenderhok word giftige gasse deur die hoendermis, uriene, nat of vuil strooi en ook kunsmatige belighting afgeskei.
- Kwindlwana yeenkuku kuye kubekho iigesi eziyingozi ezisuka kwiingqatha zeenkuku, kumchamo wazo, ebumanzini okanye kumandlalo wengca emdaka nakubushushu obenziweyo.
- Ehhokweni lezinkuku imimoya enobuthi iyenzeka isukela emisimbaneni, umchamo, emibhedeni yotshanani obumanzi nobungcolile kanye nasekushisisweni kokuzenzela.
- Tlung ya dikgoho dikgase tse kotsi di bopeha ho tswa mantleng a dikgoho, moroto, jwang bo ommeng le bo ditshila, hape le ho tswa motjhesong wa maiketsetso.

Oxygen



- **Ammonia** from urine and wet litter is bad for the lungs. It can make the chickens grow slower, cause skin damage and breast blisters and even lead to death.
- **Ammoniak** afkomstig van uriene en nat beddegoed, is sleg vir die longe. Dit kan maak dat die hoenders stadiger groei, dit kan die vel beskadig, blase op die bors veroorsaak en kan selfs die dood veroorsaak.
- **Iamoniya** esuka emchameni nakwinkunkuma emanzi iyingozi emiphungeni. Ingabangela ukukhula kade kwamantshontsho, ukonakala kwesikhumba kunye namaqhakuva esifubeni kwaye isenokuhokelela nasekufeni.
- **I-Ammonia** esukela emchamweni kanye nokungcola okumanzi yimbi emaphashini. Ingabangela ukuba izinkukhu zikhule kancane, ibangele ukulimala kwesikhumba kanye nezintshabusuka esifubeni futhi ingaholela ekufeni.
- **Ammonia** e tswang morotong le ditshila tse metsi di mpe haholo bakeng sa matshwafo. Tsona di ka baka hore dikgoho di hole butle, di bake le tshenyeho ya letlalo le matswabadi sefubeng mme qetellong di bolaye le dikgoho.
- Allow fresh air with lots of oxygen into the chicken house and remove toxic gases by means of good airflow.
- Laat vars lug met baie suurstof in die hoenderhok in en verwyder giftige gasse deur middel van goeie lugvloei.
- Makubekho umoya omtsha oneoksijini eninzi ongena kwindlwana yeenkuku uze ukhuphe iigesi eziyingozi ngokuphephezela komoya lowo.
- Faka umoya omusha kanye ne-oxygen eningi ehlokweni lezinkuku futhi ususe nemimoya enobuthi ngokungenisa umoya omuhle ngokuyikho.
- Kenya moya o foreshe ka oksejene e ngata ka hara ntlo ya dikgoho mme o tlose dikgase tse kotsi ka mokgwa wa phallo ya moya o hlwekileng. **UM**

