

CO₂ in Chicken Hatcheries

Why the need to measure CO₂?

Measuring and controlling carbon dioxide offers these benefits to the chicken hatchery business:

- Less staff required to run the breeding stations because regulated CO₂ facilitates all the eggs hatching around the same time. It is easier to plan shipments and know how many birds can be transported in one shipment. This results in less capital and reduced transport costs.
- A smaller number of birds will perish during transportation, resulting in higher profit per shipment and less feed losses.
- More efficient and cheaper feeding options, both through feed reduction and reduction in time to hatch.
- Faster and easier processing of the animals using CO₂, and there is no unnecessary suffering to the birds.

Facts & Figures

- Approximately 49 billion chickens are consumed worldwide every year. That is 134 million every day.
- Chicken is the most common type of poultry in the world.
- 100g of baked chicken breast contains 4 grams of fat and 31 grams of protein.



A chicken hatchery in Florida.

- Using CO₂ in the packaging helps to ensure food will last longer in supermarkets and for customers after they purchase the chicken. This means a reduction in waste caused by food that is discarded because of expiration dates.

How does it work?

The fertilized eggs are placed in a chamber, which then controls the CO₂ content depending on the stage of development. The eggs contribute additional CO₂ into the environment which means you have to monitor the CO₂ continuously.

It has been demonstrated that during embryonic development, a constant supply of CO₂ affords positive health effects. Control of CO₂ during the incubation

phase leads to a more controlled hatching time.

It has been found that the bird's metabolism works slower at high concentrations of CO₂, which means it takes less time and less food to raise broilers or egg laying hens. That makes production less expensive and, it's more sustainable to use less feed per pound of chicken.

The chickens are processed after being knocked out with high levels of CO₂, which only takes a few seconds. This method is more humane than killing by electrical stunning.

Sustainability of the meat increases by 20%, when using CO₂ for modified atmosphere processing.