

Ozone for Poultry Application

Ozone is used in the poultry industry as air and water disinfection /treatments for the storage, incubation of eggs and breeding of healthy birds. Ozone being an effective oxidant, it is mostly used for processing, storage and transport of poultry and meat products.

Ozonated water is used to

- feed the birds as drinking water
- wash and sterilize meat and equipment to kill harmful bacteria, viruses, and pathogens
- deodorise the air inside poultry farm

Ozone – Air treatment

* Ozone oxidizes ammoniacal gases, methane and carbon dioxide, creating a healthier environment for the birds and the staff working in the poultry

* Ozone is more effective than other air disinfecting systems such as chemical fogging and UV light.

* In growing birds, ozone in the pens as a gas reduces the amount of bacteria and thus reducing the spread of infection and viruses thereby increasing their health and even weight by up to 18%. Ozone application helps to improve their skin colour.

* Ozone is more effective than formaldehyde in disinfecting Poultry sheds and requires no dormant period in which the sheds have to remain evacuated. Immediately after disinfecting by ozone at high concentrations, the shed is ventilated and can be inhabited by the birds and staff safely. Unlike formaldehyde, ozone is non-carcinogenic.

* Hatching hens which are kept under ozonized conditions show an increase in the amount of eggs they lay, and a stronger consistency of the egg shell, because of the corresponding decrease in pathogenic illness and prevention of a toxic build up of disinfectant chemicals. Ozone is used to disinfect incubation rooms and chambers, in the place of chemicals which cause a toxic build-up on the egg shell surfaces and weaken the immune system of the birds.

Ozone in drinking water

Drinking water for poultry is an important dietary requirement. Under normal conditions, birds will consume, approximately, double the quantity as food on weight basis.

Poor water quality can retard growth, curtail egg production, or produce lower egg quality.

Feed conversion has been positively correlated to the presence of sulfate and copper concentrations in the water and ozone effectively oxidizes them and can be easily removed by filtration.

Benefits of ozone in drinking water

- * It reduces waterborne pathogens and prevents development of resistance to pathogens
- * It helps to accelerate weight gain by the birds
- * It improves feed conversion and increased layer output
- * It helps to increase the dissolved oxygen in water which helps the birds to tolerate heat

Ozone – Water treatment for washing poultry carcasses, equipment, and cold storage.

- * Ozonated water is effective as a disinfectant for poultry carcasses without loss of colour and flavour.
- * Ozonated water kills instantly more than 5 log units of *Salmonella typhirium* and *Escherichia coli* cells, as well as 4,5 log units of *Candida albicans* and *Zygosacraomyces bacilli*.
- * It has been proved that *Staphylococcus* colonise on de feathering machinery have become endemic with poultry processing plants, and become resistant to normal cleaning and disinfecting, including chlorine. Ozone has the property of killing and destroying those bacteria effectively.
- * Ozone during refrigerated storage of poultry has a pronounced effect on flora causing deteriorations and consequently prolongs the shelf life of poultry in cold storage.