

Evaluation of aerial pollutant gases concentrations in poultry pen environments during early dry season in the humid tropical zone of Nigeria

Chidi Nwagwu¹, Promise N. Ede¹, Ifeanyi C. Okoli², Okwunna K. Chukwuka² and Grace C. Okoli³

¹Institute of Geosciences and Space Technology, Rivers State University of Science and Technology, PMB 5080 Port Harcourt, Nigeria ²Tropical Animal Health and Production Research Lab, Department of Animal Science and Technology, Federal University of Technology PMB 1526, Owerri, Nigeria, ³Department of Environmental Technology, Federal University of Technology PMB 1526, Owerri, Nigeria E-mail: dr_charleso@yahoo

Abstract :

A study was conducted at Port Harcourt, in the humid tropical rainforest zone of Nigeria, to determine the concentrations of pollutant gasses in livestock buildings in order to establish baselines for exposure limits in the context of animal and human welfare in tropical environments. The concentrations of aerial ammonia, nitrous oxide, methane, carbon monoxide, hydrogen sulphide and sulphur dioxide in selected intensively managed poultry pens in Port Harcourt area of Rivers State, Nigeria were measured during the month of November, 2007. Studies reveal that overall mean aerial concentrations of carbon monoxide CO (19.1 ± 1.35 ppm) was the highest mean value recorded and was followed by the 1.06 ± 0.16 ppm and 0.89 ± 0.14 ppm recorded for flammable gas (methane) and ammonia respectively, while the 0.12 ± 0.07 ppm recorded for nitrous oxide was lowest. The study showed that these figures are lower than limits recommended for animals in Europe. [Chidi Nwagwu, Promise N. Ede, Ifeanyi C. Okoli, Okwunna K. Chukwuka and Grace C. Okoli. Evaluation of aerial pollutant gases concentrations in poultry pen environments during early dry season in the humid tropical zone of Nigeria. *Nature and Science* 2011;9(2):37-42]. (ISSN: 1545-0740). <http://www.sciencepub.net>.

Key Word :

Pollutant gases, poultry pen, aerial environment, humid tropics, Nigeria

Volume 9, Number 2, February 2011, ISSN 1545-0740