

## FIRST RESULTS OF PM10 MEASUREMENTS IN A TURKEY BARN - DESCRIPTION OF METHODS AND DIFFICULTIES

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Particulate matter in and from livestock buildings are of public concern, because such particles are of organic origin and therefore contain biologically active compounds and particle adsorbed microorganisms. Due to increasing environmental protection demands the European Pollutant Emission Register have also to incorporate the magnitude of PM10 emissions released by poultry, pigs and sows from inside livestock production facilities. At present, there are available emission rates for inhalable and respirable dust, but no sufficient data of real measured PM10 concentrations or emissions in or from livestock buildings have been determined yet. To overcome this deficiency a high volume sampler (HVS) with a PM10 preselector was set up inside an experimental turkey barn housing 1,600 animals. Within the measurement period the body weight of the turkeys ranged from 2 to 8 kg. Measurement results were obtained from 21 days, whereby, average PM10 concentrations over 24 hours were gravimetrically determined for each sampling day. The median PM10 concentration was 3.4 mg per m<sup>3</sup> air. Furthermore, an additional aim of this report is to demonstrate the difficulties involved in properly operating the HVS under livestock house conditions. Therefore it has to be discussed how valid such PM10 measurements are with the chosen sampling technique.