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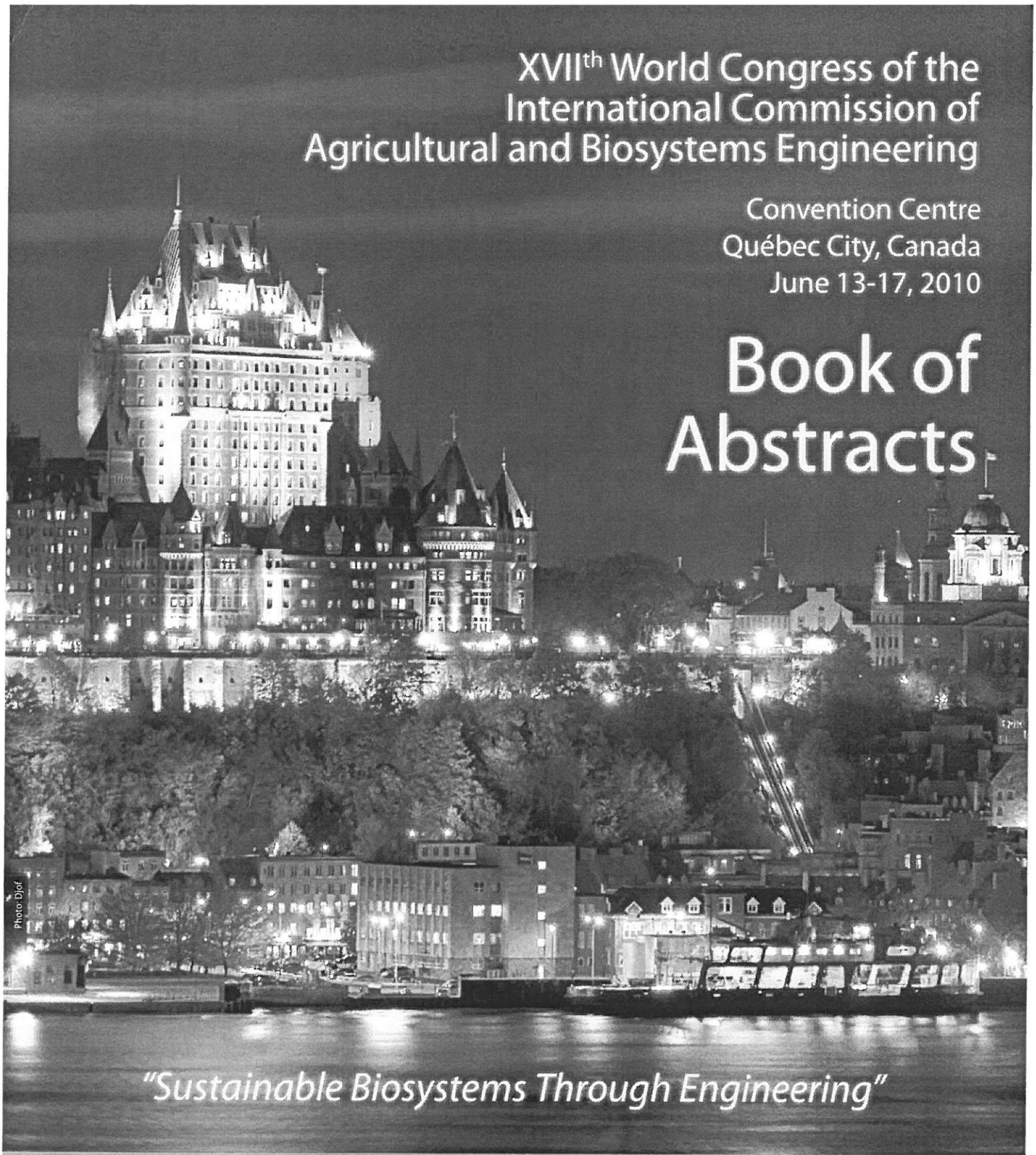

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USE OF GAS CONCENTRATION DATA FOR ESTIMATION OF METHANE AND AMMONIA EMISSION FROM NATURALLY VENTILATED LIVESTOCK BUILDINGS

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CSBE100702 – Determination of emission of contaminant gases as ammonia and methane from natural ventilated livestock buildings with large opening is a challenge due to the large variety in gas concentration and air velocity in the openings. The close relation between calculated animal heat production and the carbon dioxide production from the animals have in several cases been utilized for estimation of the emission of ammonia and other gasses. Using this method the problem of the complicated air velocity and concentration distribution in the openings is avoided, but still there is considerable doubt about (1) the precision of the estimations (2) the requirement for the length of measuring periods, and (3) the required measuring point number and location. The purpose of this work was to investigate how estimated average gas emission and the precision of the estimation is influenced by different calculation procedures, different measuring period length, different measure point locations, different measure point numbers and different criteria for excluding measuring data. The analyses is based on existing data from a 6 days measuring period in a naturally ventilated, 150 milking cow building, and it shows that the methane emission can be determined with much higher precision than ammonia emission, and, for methane, relatively precise estimations can be based on measure periods as short as 3 hours. This result makes it feasible to investigate the influence of feed composition on methane emission in a relative [...].

WINERY DESIGN CRITERIAS FOR THE PRODUCTION OF VALUABLE WINE (DOC)

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CSBE100706 – Today the market requires wines with particular and constant organoleptic (flavor, acidity, etc.) and aesthetic characteristics (color, etc.). These wines depend not only on the quality of the grapes, but also by how they are collected, transported and processed in the wineries. We have performed a research in the province of Viterbo (Italy) where some wines have received the recognition of "value wines" (DOC). Examining the areas of grape production and some wineries, the research carried out has allowed the development of some general criteria for the design of wineries: the winery must be located in a central position with respect to areas of production so it takes less than 30 minutes to transport the grapes; if the grape farms are spread on the territory, it is necessary to establish stations for wine-pressing and to transport the product with refrigerated cars or to refrigerate the grapes before the transportation. The winery must be designed to allow: the cooling of the grapes when the temperature is above 20-25 ° C; the unloading as soon as possible; the immediate pressing of the grapes; every day full receipt of the must into a suitable number of wine fermenters; the protection of the wine apparatus from solar radiation. These are the first important rules elaborated for a correct winery design for valuable wine production.