APPLICATION OF A MICROBIOLOGICAL ASSESSMENT SCHEME TO EVALUATE MICROBIOLOGICAL PERFORMANCE IN A CATERING SETTING

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Poor food safety management systems (FSMS) and an attendant increase of food safety risks in professional kitchens may impact on a significant number of consumers. A national food consumption survey in Belgium demonstrated that more than 35 percent of the population consumed more than 25 percent of their daily energy intake out of home. To measure the microbiological performance of a FSMS in a catering setting a microbiological assessment scheme (MAS) was developed. MAS supports in deciding on where and how to take a sample, at what frequency, how to conduct microbial analyses, how to interpret results and judge the outcome in perspective of the FSMS. A MAS in retail differs from a MAS in transformation by having many kinds of raw materials, intermediate products and end products. To avoid sampling on all products, a method to divide food products in critical sampling categories (CSC) was developed. This method will give a score to a food product based on epidemiological association, prevalence and the support of survival and/or growth of microorganisms. By using this method only food products with a high score (7, 8 or 9) should be sampled. A MAS horizontal was applied on raw products and on end products. A MAS vertical (through a production process) was three times applied on three different production processes in a catering setting, namely on the preparation of a sandwich, the production of a hot meal starting with raw material and preparation out of packaging, the production of a hot meal starting with cooked products and preparation in original packaging. The MAS for hot meals showed low numbers of microorganisms and small variations in microbial counts, which is a good indication of a well implemented food safety management system for those processes. The MAS for the preparation of a sandwich showed different results. There were high levels of microorganisms present at different locations. In this process there is still place for improvement of the food safety management system with special attention for hygiene of hands and equipment. The application of MAS in a catering setting via the combination of MAS horizontal and MAS vertical can help to analyze the performance of a FSMS and to assign points of attention for a better performing FSMS.