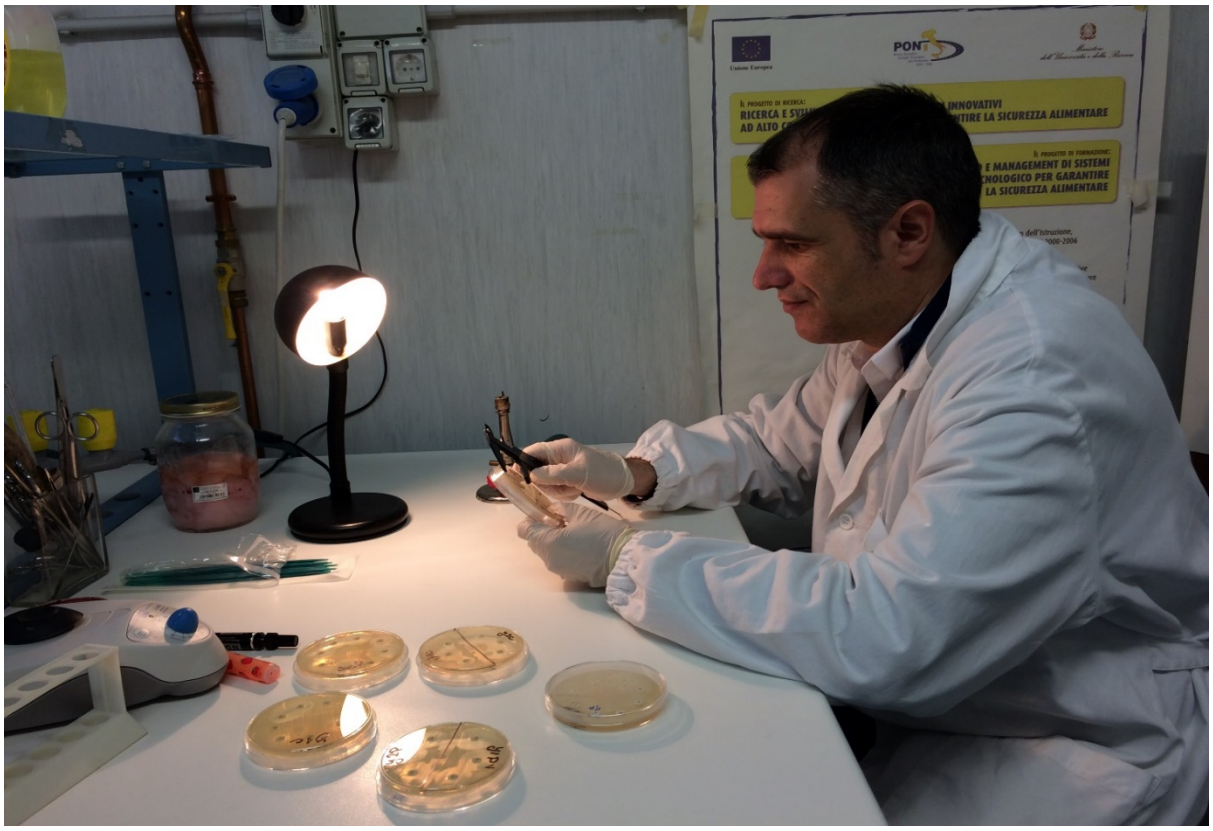
STSM at the University of Perugia (5th – 24th February, 2020)

Egon Andoni STSM was performed in the Department of Veterinary Medicine Perugia (Italy), supervised from Prof Prof David Ranucci. The focus of the STSM was the Microbiological risk assessment (MRA) at the level of slaughterhouse.

Microbiological risk assessment (MRA) represent a detailed scientific process which support food safety. This methodology is very effective in mitigating the risk of foodborne illness and is composed from risk assessment, risk management and risk communication. Microbiological risk assessment in abattoirs, are used to identify hazards during the slaughter and processing of meat to ensure the human health. There are several different formats in MRA have been introduced and evaluate information from many diverse sources along the food chain.

The activities during the two weeks' period was focused on poultry slaughtering. To identify the most important steps in the slaughter process, from a risk perspective, a flow diagram for poultry slaughtering plant was constructed, as useful model easily applicable even to other slaughtering species. An accurate survey of poultry carcass at different slaughtering stages was performed at an industrial abattoir, evaluating the microbial load on the carcass and equipment surfaces. The risk assessment was mainly focused to determine the level of microbial load in poultry carcass for Salmonella.spp and Campylobacter. The determine the load at differences process phase, data collection was performed during the process of defeathering, evisceration, before and after refrigeration. Based on this, a quantitative microbiological risk assessment model has been developed to track pathogen on the examine the microbial load on the poultry carcass, contamination of the equipment, materials and hygiene levels on personnel hands. All the data obtained were utilized for the assessment of qualitative risk analysis matrix when level risk likelihood vary from A – almost certain to E – rare and consequences from 1-Insignificant to 5-Catastrophic. At the same time graphic which show the obtain data was utilized on risk software. At the same time different trainings sections were focused on the use of ComBasse platform in the internet. The Combase possess useful tools for informing and designing food safety management, to understand safer ways of producing and storing foods. The data employed in ComBase can be summarized as planning between two Department of Veterinary Medicine, University of Perugia Via San Costanzo, 4 06126 Perugia, Italy dynamic variables, environment and microbial response. This program analyses the microbial load of al pathogens in different types of foods, based on all available date in different studies. Various scenarios were utilized in predicting how microorganisms survive and grow under a variety of food environments, such as temperature, pH, and water activity primarily describing how food-related conditions affect prediction on quantitative risk assessment. Several mathematical models (the ComBase Predictor and Food models) were evolve on systematically generated data to predict how various organisms grow or survive under various temperature conditions. All these different types of mathematical models permit prediction of growth, inactivation and behaviour of bacteria in different dairy foods under different environmental conditions. At the same time estimation on the increase or decrease of shelf-life has been used and in all cases. The training was adapted to the partial results obtained

at slaughterhouse during the first week and the loads were fitted with the specific online DMFit tool of the ComBase software to reveal the population growth scenarios on the time of carcass shelf/life throughout fitted initial values, Lag/shoulder phase, Log/µmax phase and final values.



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