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T94 The evaluation of Avgard™ to determine its effectiveness at reducing microbial indicator counts when applied at different commercial parameters. B.A. Carlson*, J.R. Ransom, J.A. Scanga, K.E. Belk, J.N. Sofos, and G.C. Smith, *Colorado State University, Fort Collins.*

The objective of this study was to evaluate Avgard™ and determine its effectiveness at reducing microbial indicator counts when incorporated as a sanitizer utilized in a carcass decontamination intervention. Samples of adipose tissue were obtained from a commercial beef processing facility and transported to the Pathogen Reduction Laboratory at Colorado State University. Adipose samples were inoculated with a fecal slurry and subjected to a treatment of one of the eight varying concentrations (0.0, 0.1, 0.3, 0.6, 1.0, 1.5, 2.0 and 4.0%) of Avgard™. All treatments were evaluated at three different pressures (<5, 20 and 40 psi) utilizing a model carcass decontamination cabinet. Following treatment, samples were sponge-sampled and analyzed for Total Plate Counts (TPC), Total Coliform Counts (TCC) and *E. coli* Biotype I (ECC). When compared to the negative and water treated controls, the treatment of 4.0% Avgard™ applied at 40 psi was the most effective treatment as it reduced TCC and ECC by 6.2-8.5 and 6.1-7.3 log CFU/cm², respectively. However, the treatment resulting in the greatest reduction of TPC was the 2.0% Avgard™ applied at 20 psi. This treatment significantly ($P < 0.05$) reduced TPC by 3.3-4.9 log CFU/cm² when compared to the negative and water treated controls. Although Avgard™ was not specifically evaluated for its effectiveness against known pathogens; it was shown to have bactericidal activity against microbial indicator counts such as TCC and ECC and should be considered as a possible sanitizer to be utilized during carcass decontamination.

Key Words: Avgard™, Carcass decontamination, Microbial reduction

T95 Influence of wine, nitrite and lactic acid bacteria on the behavior of food poisoning bacteria in model sausages. L. Patarata*, M. Novais, M. Rua-Pinto, A. Esteves, and C. Martins, *UTAD, Center of Studies in Animal and Veterinary Science, Vila Real, Portugal.*

In fermented sausages the control of food poisoning bacteria is usually achieved by the low pH, reduced water activity and the protective effect of nitrite and/or nitrate. The successful establishment of practices to ensure safety of dry fermented sausages lays in a deep knowledge of the product and the parameters that contributes to its conservation. In Portugal, in several small dimension producers, nitrite is not added, nor any kind of starter cultures or sugar. However, wine marinating of meat is frequently used to season those meat products. The effect of wine in pathogenic microflora is unknown, due to the scarce bibliography regarding that practice.

The aim of this work was to evaluate the effect of wine, nitrite and nitrate, and the addition of a starter culture of *L. sakei* on the behaviour of three pathogens frequently considered hazards in the preparation of not heated ready-to-eat sausages: *Salmonella* spp., *Staphylococcus aureus* and *Listeria monocytogenes*.

The presence of LAB was responsible for a lower counting of the 3 pathogens in almost all sampling periods. The presence of nitrite was also responsible for the control of the pathogens. At the end of the incubation period, *Salmonella* and *L. monocytogenes* presented mean a lower counting in samples with those additives. A similar effect was observed with *S. aureus* after 3 and 7 days of incubation. The effect of wine was observed directly only in *Salmonella* at day 7 and in *L. monocytogenes* at day 14. Samples with wine had lower counting than the control. From the results of this work it should be stressed that, *S. aureus* and *L. monocytogenes*, even with the lack of the effect of the drying, and consequent water activity reduction, the presence of, at least, one of the effects studied is enough to reduce its number during the period under study. The apparent risk associated to the lack of nitrite might be solved by the presence of competitive LAB and/or wine. Considering these two pathogens, the most risky combination observed was the simultaneous lack of LAB, nitrite and wine

Key Words: Dry fermented sausages, Wine, Nitrite, Lactic acid bacteria, Food pathogens

T96 Antimicrobial effect of Roselle (*Hibiscus sabdariffa* Linn.) fermented meat (Nham). S. Angsujinda, A. Swetwathana*, Y. Surapantapisit, and P. Pinsirodom, *King Mongkut's Institute of Technology, Ladkrabang, Bangkok, Thailand.*

Roselle, a Thai medicinal plant, has been shown to exhibit antioxidant and antimicrobial activities. Thus, this study evaluated the antimicrobial effects of roselle extract (RE) at different concentrations (25, 50, 100, 150 and 200 mg/ml) against 6 strains of bacteria associated in retailed meat and Thai fermented meat (Nham). Four strains were gram-positive (*Staphylococcus aureus*, *Listeria innocua*, *Lactobacillus plantarum* and *Pediococcus pentosaceus*) and two strains were gram-negative (*Escherichia coli* and *Salmonella anatum*).