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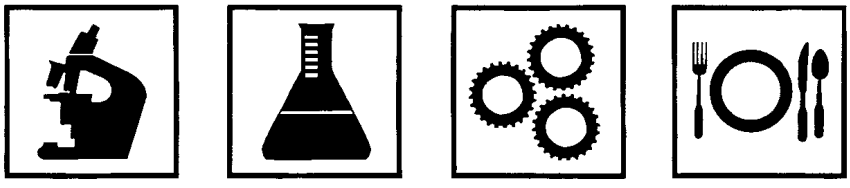

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ABSTRACTS

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Scope of the Journal. The *Journal of Food Protection*® (*JFP*) is an international monthly scientific journal in the English language published by the International Association for Food Protection (IAFP). *JFP* is intended for publication of research and review articles on all aspects of food protection and safety. Major emphases of *JFP* are placed on studies dealing with (i) causes (primarily microbial, microbially derived toxins, food-related toxicants, and allergens) and pre- and postharvest control of all forms of foodborne illness as well as risk assessment; (ii) contaminants (e.g., feces, insects, rodents) and their control in raw foods and in foods during processing, distribution, preparation, and service to consumers; (iii) causes of food spoilage and its control through processing; (iv) food fermentations and food-related probiotics; (v) microbiological food quality and methods to assay microbiological food quality; and (vi) methods for detecting and quantifying microbial and chemical contaminants in food.

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Information on the growth behavior of Carnobacteria would then be helpful to better understand the development of bacterial community structure on VP beef.

Purpose: To evaluate the growth behavior of *Carnobacterium* isolates at pH conditions relevant to VP beef.

Methods: The growth of 36 *Carnobacterium* isolates from VP meat cuts obtained from three abattoirs (A, B, and C) were determined in broth medium with initial pH 5.4 at 30°C via measurement of optical density at 600 nm (OD_{600}). F-test was performed to determine whether the growth kinetics, including detection time, growth rate, and ΔOD (the difference of OD_{600} between initial and stationary growth phase), were different among abattoirs, species, strains, and isolates. If $P < 0.05$, t-test was further used for pairwise comparison. The minimum pH (pHmin) allowing growth in BHI was further determined for each isolate.

Results: In medium with initial pH 5.4, detection time for strain NFU35 was significantly ($P < 0.05$) shorter than MMF-23, MFPB14D06-04, and G117. G117 showed the smallest ΔOD, followed by MFPB, NFU35, and MMF-23. The overall difference in growth kinetics among species was not significant, and the average detection time for isolates from abattoir A was longer than the other two abattoirs due to the presence of strain G117. The pHmin of G117 was 5, higher than the other isolates (4.4–4.8).

Significance: The different resistance of *Carnobacterium* strains to relatively low pH is likely one of the reasons resulting in difference in the microbial structure, which in turn lead to different storage lives of VP beef.

P3-128 Anti-listerial Activity of Lactic Acid Bacteria Isolated from Artisanal Cheeses Produced in the State of Minas Gerais (Brazil)

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Introduction: Brazilian artisanal cheeses, among them Minas cheeses, are highly appreciated by consumers. Nonetheless, some cheeses have been regularly found to harbour high-risk pathogens, such as *Listeria monocytogenes*, mainly arising from their elaboration with raw milk and informal production. However, cheese matrices are complex systems whose microbial competing factors (i.e., indigenous lactic acid bacteria (LAB)) and intrinsic properties (acidity, temperature, and water activity) can act as effective hurdles against *L. monocytogenes* proliferation.

Purpose: The aim of this study was to evaluate the capacity of LAB strains isolated from Minas artisanal cheeses as anti-listerial agents.

Methods: A total of 891 LAB strains were isolated from 244 Minas artisanal cheese samples (466 using MRS agar (MRSLAB) and 425 using M17 agar (M17LAB)), which were tested qualitatively for anti-listerial activity by the deferred antagonism assay at 30°C (24 h). Two *L. monocytogenes* strains, serotypes 1/2b and 4b, isolated from cheese and crude milk, respectively, were used. LAB strains with positive anti-listerial activity at 30°C were further tested at 7°C (10 days).

Results: MRSLAB strains presented significantly better anti-listerial activity at 30°C (73.0% and 70.8% for serotypes 1/2b and 4b, respectively) compared to M17LAB strains (21.2% and 23.1%, respectively), and there was no significant difference between listeria serotypes ($P<0.05$). Selected MRSLAB and M17LAB strains were able to keep anti-listerial activity at 7°C, with no significant differences between MRSLAB (96.8% and 97.2% for listeria 1/2b and 4b, respectively) and M17LAB (95.2% and 96.8%, respectively) or between *Listeria* serotypes ($P<0.05$).

Significance: These results suggested that LAB isolated from Minas cheeses using MRS agar present a better inhibitory effect against *L. monocytogenes* at different temperatures. These strains can be used as starter cultures in order to inhibit pathogen survival.

P3-129 Prevalence and Antibiotic Resistance of Bacteria Isolated from Retail Meats in Korea during the Year 2016

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Introduction: Antimicrobials had been added to animal feeds for many years. Therefore, meticulous monitoring and surveillance to the antibiotic resistance of retail meats was necessary.

Purpose: The purpose of this study is to investigate prevalence and antimicrobial resistance of bacteria from retail meats in Korea during the year 2016.

Methods: We collected the retail meats in grocery stores periodically and conducted isolation of bacteria from the samples. With the isolates, we performed antimicrobial susceptibility testing using MIC, identification of antimicrobial resistance genes using PCR and MLST for the homology analysis.

Results: From the total 200 cases domestic food products, 88 *E. coli*, 34 S. aureus, 29 Enterococcus spp., and one *Salmonella* spp. were isolated. 200 imported samples were analyzed and 48 *E. coli*, 19 S. aureus and 3 Enterococcus spp. were isolated. *E. coli* from domestic primary products shoed higher resistance to tetracycline, nalidixic acid, ampicillin and streptomycin than the other antimicrobials, while for imported products streptomycin, tetracycline, ampicillin resistance was relatively higher. In case of S. aureus penicillin resistance was highest in both domestic products and imported products. In case of Enterococcus spp. resistances were rare except for daptomycin, tetracycline, quinuprostin/ dalfopristin. One *Salmonella* spp. showed resistance to only streptomycin. Two MRSA strains were isolated from domestic chicken meats. 6 ESBL producing *E. coli* were isolated from three domestic chicken meats and three imported chicken meats. By MLST analysis, two MRSA strains from chicken meats were determined as ST692 and that was similar to previous study in Korea. six ESBL ST types were ST23, 457, 602 from three domestic chicken meats and ST58, 117, 1286 from three imported chicken meats. Among the ESBL ST types, ST23, 457, 117 were isolated in previous years.

Significance: Our investigation indicates that retail meats are a possible source increasing the rates of antibiotic resistance in human. Therefore, continued monitoring and strengthened surveillance in relation to food safety, in particular to retail meats distributed to markets, are recommended.

P3-130 Antibacterial and Antioxidant Activity of Oregano Essential Oil on Stability of Low-acid Mayonnaise

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Introduction: Low-acid mayonnaise produced with raw egg is a product rich in oil, almost a home-made product, but it is susceptible to lipid oxidation and microbial contamination by *Salmonella Enteritidis* (SE), which results in deterioration of the product and forms undesirable components such as free radicals.

Purpose: The purpose of this study was to evaluate the effect of using oregano essential oil (OEO) as a natural antibacterial and antioxidant in mayonnaise preparations with low-acidity.