THE INNOVIANDES COMPETITIVENESS CENTRE

BETTER USE OF THE CENTRE THROUGH BETTER INFORMATION

DENIS M., MENARD C.

The InnoViandes Competitiveness Centre was constructed on the basis of the GIS Meat Centre and the GIE Activiandes. It groups the main French facilities for R&D, innovation, technology transfer and continuing training in the slaughtering, butchery, processing and distribution of meat and meat products, all species combined.
With the aim of favouring the emergence of R&D projects to meet the requirements of the industry's companies, the Centre implements actions to raise the awareness of companies and promote the innovation and expertise of its partners.
Since the Centre was officially recognised in July 2005, concrete results have been obtained, in particular in the form of a large number of certified projects and a strong involvement of the industry's companies in these projects.

Key words: company, research, transfer, competitiveness

DECONTAMINATION OF BEEF CARCASSES

RESULTS OF THE ADIV/SOCOPA PROGRAMME IN THE FRAMEWORK OF UNIR (1996)

SIRAMI J.

This paper reviews the work conducted by ADIV in the specific area of beef carcass decontamination. The aim was to test different methods or combinations of methods to obtain a bacterial decontamination of 3 log on the surface of carcasses at the end of the slaughter line without modifying the organoleptic qualities of the meat or impacting negatively on the health of the consumer, all at an acceptable cost. The choice of methods is deliberately restricted to those that can eventually be authorised, namely physical methods (pressure-spraying with hot water followed by cold-shock spraying with cold water) and the use of food-grade organic acids (lactic, tartaric and citric acids). The tests were conducted at ADIV's experimental facility on warm shoulders. The flora studied was total aerobic mesophilic flora, *Pseudomonas* and *Brochotrix thermosphacta*.
The work showed that only addition of acid, acetic acid being the most effective, provided a useful degree of decontamination up to several days post-slaughter. Spraying with hot water (70°C) at 20 bars followed by a shock with an ice-cold water spray gave an instant decontamination of 1 to 1.5 log according to the type of flora, but by Day 4 the contamination of the treated carcasses slightly exceeded the controls (+ 0.3 log). On Day 8 it exceeded controls by 0.7-1.5 log.

Key words: decontamination, beef carcass, acetic acid

THE CASE OF POULTRY CARCASSES

THE UTILITY OF TREATMENTS WITH STEAM ALONE OR COMBINED WITH LACTIC ACID FOR THE SURFACE DECONTAMINATION OF MEAT

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Despite improvements by breeders, and the rules of hygiene implemented in slaughterhouses and processing plants, raw poultry carcasses are contaminated with bacteria which often include pathogens as *Listeria*, *Salmonella* and *Campylobacter*. This study investigates at first the effectiveness of thermal treatments: hot air and steam in the decontamination of poultry skin. Superheated steam is clearly more bacterial inactivation-efficient than hot air and non-superheated steam, leading to an average reduction of more than 5 log10 CFU/cm^2 after 30s of treatment. Steam treatments can also be combined to chemical treatments, using concentrated solutions of lactic acid (1 and 30 minutes, 5% and 10% lactic acid) to inactivate bacteria existing on the surface of chicken skins. The immediate effect of the strongest combined treatments can be mainly attributed to the heat treatment part. However, after 7 days storage, its effect is mainly due to the acid treatment part, which prevents growth of the bacteria that survived the heat treatment. Gentler treatments reveal a possible synergy between the heat and acid treatments, paving the way for an effective means of reducing bacterial load on the surface of poultry and others meat carcasses without affecting the product's appearance or taste.

Key words : poultry carcass, thermal treatments, lactic acid, decontamination

DECONTAMINATION PROCESSES

THE SITUATION IN THE US AND OCEANIA BACTERIOLOGICAL EFFICACY OF PHYSICAL AND (OR) CHEMICAL TREATMENTS FOR THE DECONTAMINATION OF CARCASSES

RIVOLLIER M., CHRISTIEANS S.

Current trends in carcass decontamination technology in the US and Oceania raise questions about their applications in France and in other EU countries.
The chemical treatments adopted in the US, where carcasses are treated with solutions of organic acids, are not authorised by the European Commission. However, given the non-negligible bacteriological efficacy of these solutions, the industry is concerned about the future of the regulations in Europe and their application. This paper reviews the bacteriological efficacy of the physical and chemical processes used today in the US and Oceania.

Key words: Chemical decontamination, physical decontamination, carcass

MICROBIOLOGICAL QUALITY OF BEEF

English

Summary

English

SANITARY CONTROL OF MEAT PRODUCTS: EXAMPLE OF SOCOPA

BEAUBOIS P.

One particular feature of the sanitary control of raw meat products is that their manufacturing process does not include a final aseptising step. Despite a marked improvement, the presence of pathogenic bacteria cannot be excluded, even among reliable suppliers. It has been shown that 80% of the bacteria come from the surface of the carcass. This paper describes the different monitoring and inspection systems set up at SOCOPA to control the sanitary status of raw finished products.

Key words: beef carcass, contamination, raw finished product

PORK

CONTROL OF CARCASS CONTAMINATION LEVELS AT END OF LINE: UTILITY OF LACTIC ACID

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For a better controlled salmonella and other microbial contamination risk, measures additional to compliance with Good Hygiene Practices and HACCP must be envisaged.
The measures have to reduce carcass contamination without being detrimental to the value and acceptability of the products. Two classes of processes make it possible to reduce bacterial contamination of carcasses: heat treatments and the use of organic acids.
This study concerns the decontaminating effect of lactic acid. Three concentrations of lactic acid and two temperatures were tested on carcasses by spraying before sweating. The efficacy of the treatments was assessed by bacteriological sampling before treatment and 24 h and 48 h afterwards, accompanied by an evaluation of the commercial value of the carcasses. The reduction of the contamination was below 80%, irrespective of the flora, the temperature, the concentration, and the area or time of sampling. The results show a treatment efficacy below expected levels (90% to 90.9% according to the literature). In the industrial conditions tested, controlling carcass contamination by lactic acid treatment is thus of limited practical utility.

Key words: decontamination, pork, carcass, lactic acid

PROFESSIONALS IN THE INDUSTRY REMAIN CAUTIOUS TOWARDS ANTIMICROBIAL TREATMENTS

BRULHET B.

EC Regulation No. 853/2004 setting specific hygiene rules applicable to foods of animal origin allows recourse to substances other than clean or potable water to eliminate surface contamination from products of animal origin.
The Directorate General for Health and Consumer Affairs (DG Sanco) has proposed a draft regulation governing the specific conditions for the antimicrobial treatment of products of animal origin. At this stage it concerns poultry. It authorises four substances: trisodium phosphate, acidified sodium chlorite, chlorine dioxide and peroxyacids. These were supported by interests in the US, who are lobbying the European Commission.
The challenge is technical as well as political. Professionals in the industry are concerned that these chemical antimicrobial treatments may harm the image of poultry products.

Key words: decontamination, poultry carcasses, trisodium phosphate, acidified sodium chlorite, chlorine dioxide, peroxyacids

STATEMENTS OF THE OFFICIAL REGULATOR

DECONTAMINATION OF CARCASSES

KOOH P.

Afssa, the French regulating body, issued two statements in 2007 concerning the decontamination of carcasses.
The statement of 20 March 2007 examines the scientific issues raised by the regulatory project concerning the decontamination of poultry carcasses.
The statement of 19 June 2007 presents a review of the scientific and technical literature on physical decontamination processes for butchery and poultry carcasses, and assesses the chemical contamination risks arising from the use of these processes.

Key words: Chemical decontamination, physical decontamination, carcasses

DECONTAMINATION OF POULTRY CARCASSES