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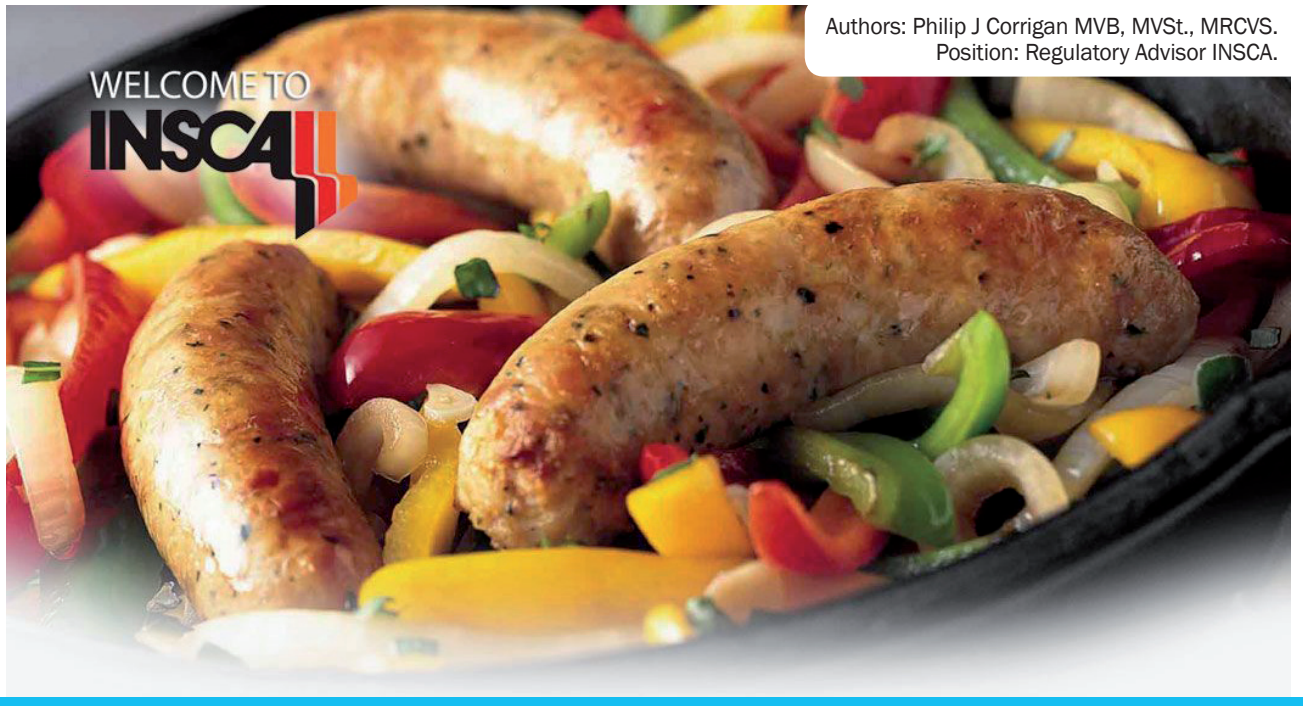

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NATURAL SAUSAGE CASINGS

Consumer food choice is influenced by many factors, both sensory and non sensory. These can include: availability, ingredients, nutrition, safety, taste, convenience, presentation, odor, origin, price and consumer mood, attitude, perceptions and ethnic / religious preferences. The consumption of sausages is influenced by a number of these issues. Societal trends indicate that consumers are increasingly interested in natural, convenient and safe products.

Sausages made with natural sausage casings fully meet these criteria. Natural sausage casings ("casings") are made from the sub-mucosa layer of the intestines of healthy porcine, ovine and bovine animals, and consist mainly of naturally occurring collagen. The outer fat, muscular layers and the inner mucosa lining are removed during processing. Salt and water are all that is used for cleaning and preservation.

The globalization of natural sausage casings and sausage production is a reality of modern times, technology and consumer demand. The International Natural Sausage Casing Association (INSCA) has over 250 individual industry members in 38 countries whose main purpose is to promote the development, establishment, and expansion of the natural sausage casing industry and to promote free trade of healthy natural casings worldwide. An interesting and unique feature of the production and consumption of natural sausages is that in any one individual sausage the natural sausage casing (skin) was probably produced in one country, processed in that country or another country, returned to the producing country or exported to another for sausage making, while the sausage itself could well be exported to the final country of consumption.

Safety

The safety of the natural casing is the paramount important issue of the natural casings industry. Natural casings are produced in meat plants registered by the competent authority (responsible government agency) of the particular country. They are derived from clinically healthy farmed animals which receive ante- and post-mortem inspection prior to slaughter and are passed fit for human consumption. They are subject to supervision, inspection, audit and certification by the competent authority. The casings industry has developed its own industry processing standards, primarily influenced by International Standards Organisation (ISO) standards and Codex Alimentarius Hazard Analysis and Critical Control Point (HACCP) principles. Additionally industry disciplines such as Self- Regulation, Quality Assurance (QA) and Good Manufacturing Practice (GMP) principles, Standard Operating Practices (SOPs) and enterprise specific Critical Control Points (CCPs) have been adopted as recommended industry practice. In- house microbial counts and, where indicated, chemical residue testing form part of routine operations. Of increasing importance is the industry insistence of Best Practice animal welfare standards and practices.

Science

A number of published scientific studies have confirmed the safety of natural casings. The main preservative for natural casings is salt (NaCl), either as dry salt or as fully saturated brine. This preservation method has been found to be highly effective against all vegeta-

tive bacteria (Gabis and Silliker, 1974; Houben 2005; Wijnker et al., 2006). Subsequent studies have focused on the usability of phosphates as food additives (Bakker et al., 1999; Verkleij et al., 2003; Houben et al., 2005; Nakae et al., 2008), showing a clear improvement on different microbial and mechanical properties of the natural casings. Further scientific studies have been initiated by INSCA's International Scientific Working Group (ISWG) to confirm that the natural casings industry practice of preservation with salt and, as needed with phosphates, will effectively deal with the viruses which cause serious contagious trans-boundary animal disease. These diseases significantly limit international trade. Various research projects have been completed on the viruses causing Foot-and-Mouth disease, Classical Swine Fever, African Swine Fever and Swine Vesicular disease to determine an effective treatment against the presence of these viruses in natural sausage casings. This work has resulted in several scientific publications and a clear understanding of how these viruses can be inactivated (Wijnker et al., 2007; Wijnker et al., 2008; Wieringa et al., 2011; Wijnker et al., 2012). The results from these studies have shown how specific combinations of salt, phosphate supplemented salt, temperature and treatment time can remove the infectivity risk of these viruses from treated natural casings. In most of these diseases it has been generally accepted that industry practices negates the virus and thus trade in casings is often allowed while other meat products and by products may be restricted.

Dry-salting or storage in fully saturated brine using sodium chloride (NaCl) is still the industry's SOP for the preservation of natural casings. Further specific treatment with phosphate supplemented salt and / or certain minimum storage temperatures during the treatment period can form part of an emergency protocol in case of an outbreak of a contagious animal disease for which salt alone is not sufficient.

Trade

Fully and partially processed natural casings are traded internationally with an accompanying official health certificate provided by the competent authority of the exporting country, meeting the relevant requirements of the importing country. These certificates provide the necessary assurances on product safety and animal disease health. Reference is made to the World Animal Health Organization (OIE) guidelines on country disease status in terms of agreeing specific certification requirements between trading countries.

International trade in natural sausage casings can be greatly affected by outbreaks of contagious animal or zoonotic related diseases around the world and the restrictive measures put in place by competent authorities in order to prevent the spread of these diseases via products of animal origin. Foot and Mouth disease, Bovine Spongiform Encephalopathy, Classical Swine Fever, African Swine Fever are amongst the most significant diseases negatively affecting international trade in recent times. Although all animals from which natural casings are procured receive official ante and post mortem inspection, available scientific data shows that a possible contamination risk can remain in meat and meat products derived from these animals if the animal was slaughtered in the preclinical phase with no apparent disease symptoms. As a result, countries may impose specific quarantine measures or import restrictions in those regions affected by such an outbreak, which will have major international trade repercussions. On the international trading market strict adherence is paid to World Trade Organisation (WTO), Sanitary and Phytosanitary (SPS), World Animal Health Organisation (OIE) and Codex Alimentarius standards and requirements.

The officially recognized OIE position relating to a particular disease is recommended by INSCA for adoption by trading partner countries. However at times this adoption is not so readily or immediately accepted by import countries, leading to a trade impasse, and what can be recognized as a Technical Barrier to Trade (TBT).

The most productive and satisfactory resolution and outcome is usually derived from open and frank bilateral communication and discussions between trading countries to get agreement on the specific detail of health certificate requirements. INCSA assistance is available and readily provided, through its International Committee on Trade Relations (ICTR), in the mitigation of import and health certificate differences. Published scientific information is actively utilized to convince importing countries to adopt relevant OIE and WTO guidelines on disease status and international trade. Additionally the resources of the OIE, through its International Branch, is available to provide advice and to assist in the resolution of health certificate related trade issues. Finally if a clear unresolved TBT is recognized, a formal WTO appeal process may be considered. However this can result in a prohibitive lengthy and costly international legal process. In the case of a WTO appeal the WTO accepts the OIE official animal disease country status. The natural casings industry through its international representative body, INSCA, along with its individual regional and national associations, is insistent on the utilization of scientifically based evidence to support the production of healthy and safe product which receives maximum international trade access.

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