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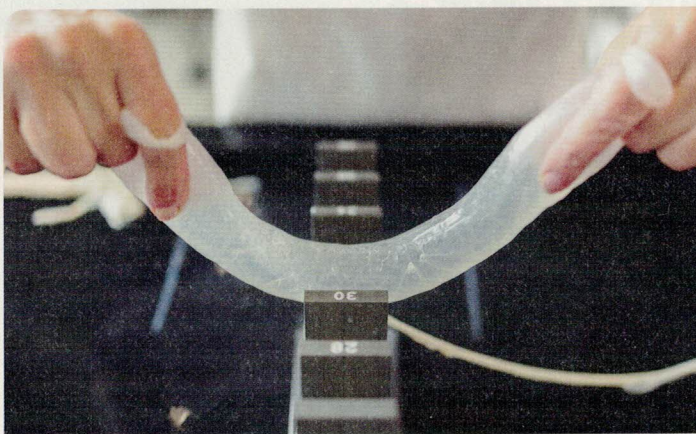
Casings are classified by their raw material and diameter referred to as „calibre“. Casings with identical material, quality, and sizing are combined into „hanks“. Photo: Zentralverband Naturdarm / rotshot.de

The casings trade is a global business

Current world events are having a lasting impact on the market

The use of natural casings has a long tradition. For more than 2,000 years, this raw material has served as natural “packaging” for top-quality sausages. Today, the natural casing sector is a modern branch of the food industry. Its companies operate globally and are interconnected. As an international umbrella association, the International Natural Sausage Casing Association (INSCA) represents the interests of more than 190 businesses from every continent. The research and promotion of free trade are afforded special attention here.

By Christian Bierhalter



Casings are filled with water or air to check for possible damages that happened during processing. Photo: Zentralverband Naturdarm / rotshot.de

For more than 2,000 years, animal intestines have been used as casings for sausages. Today, natural casings are more in vogue than ever as they are considered sustainable “packaging”. Intestines enjoyed their first period of popularity as casing for

sausages in the Middle Ages. Many sausage recipes date back to when nuns and monks in European convents and monasteries filled animal intestines to survive sieges and long winters but also to

impress guests of high standing and nobility.

The centuries-old tradition in the art of sausage making has left its mark on the old trade routes. Together with salt, silk and tea,

natural casings demonstrably enjoyed a significant level of participation in the historical development of global trade. And the trade continues as a global business today. The sector is highly connected and organised around the world, both nationally and internationally.

As an international umbrella association, INSCA was at first primarily influenced by the US-American market, but today unites members from Europe, North and South America, Asia, the Middle East, New Zealand, Australia and Africa in one organisation. Experts in the natural sausage casing industry from all around the globe commit themselves to various committees and working groups to achieve a common goal – to offer customers a top-quality, processing-friendly and sustainable product which provides high-added value for the meat-processing industry.

Global network for free trade flows

The International Natural Sausage Casing Association (INSCA) is the industry body for natural casing producers and distributors. The organisation's tasks include scientific research projects, quality assurance, the promotion of free trade flows to support natural casing companies and their customers, as well as connecting its members. INSCA partners with scientists and experts in the meat-processing industry along with governmental organisations around the world on questions and issues concerning sausage casings. The association's International Scientific Working Group (ISWG) has been running groundbreaking study



Noha Shetta is the Executive Director of INSCA, located in Alexandria, Egypt. Photo: INSCA

projects for many years now, which focus, among other factors, on the safe preservation of this valuable commodity. The results of the studies are recognised worldwide and, not least of all, serve as decision-making aids to define guidelines and regulations in both the national and international movement of goods. INSCA was founded in 1965 and currently has more than 190 member companies in 41 countries, which include casing producers, brokers, retailer, exporters, importers and suppliers who qualify as members according to articles of incorporation. The European Natural Sausage Casings Association (ENSCA) and many national organisations are also

organised in INSCA, such as the *Zentralverband Naturdarm e.V.* as the representative for German companies, for example. INSCA's headquarters are based in Alexandria (Egypt), and Noha Shetta is its Executive Director. A highlight of the association's events is the annual conference, where some 500 participants come together to inform themselves about current trends and research results and to discuss important product and trade issues. The framework here is provided by numerous workshops, talks and presentations, as well as informal formats such as receptions and competitions.

[//www.insca.org](http://www.insca.org)

Greatest possible care during processing

All parts of animal innards that can be used for filling apply as natural casings. They are therefore a natural resource in line with the "nose-to-tail" principle, which stands at the core of sustainable and responsible meat production. Natural casings predominantly come from pigs, sheep and cattle. After extracting the high-quality material, it is stored in salt for at least thirty days and therefore guaranteed safe for human consumption.

Care and hygiene are also the utmost priority during further processing. Therefore, highly-qualified professionals with experience and know-how are deployed in this area. They are able to determine the country of origin by examining colour, condition and sensory properties.

The high quality of the natural product is ensured, not least of all by the elaborate refining. With sheep casings, for example, the most tender and upmarket sausage casing, the upper membrane ("serosa"), the mucosa and the inner muscular layer of the gut are mechanically removed so that only a thin and slightly transparent middle membrane, the "submucosa" remains. Only this delicate skin is processed for sausage production.

To check the quality of the goods, the casings are filled with water or air – by using this method, possible defects or holes

are safely detected. At the same time, the casings are also sorted according to diameter, texture and quality. The diameter is given as "calibre" – with sheep casings, for example, the calibres vary between 14 and 30 mm. All those with identical properties concerning calibre and quality are combined into "hanks", whereby one hank is equal to an overall length of 91 metres.

Salted or laid in brine, the goods are then ready for delivery to the customers. With the packaging, the customer can choose between different delivery forms – run onto soft or hard tubes, salted or ready-to-fill in various pack sizes. Each customer then gets the best solution for their requirements and production processes.

Naturalness as a profitable sales argument

In many markets, sustainability and naturalness are increasingly important sales arguments with the production of foodstuffs. Natural casings in meat processing score high on multiple levels as raw material. They are a natural resource that accrues in the slaughter process and therefore do not require additional production. Only water and salt are used for processing and preservation. And there is no problem with "disposal" either – the casing is disposed of by simply eating the sausage. Along with these positive arguments vis-à-vis the consumer, natural

casings also offer the processor tangible benefits:

- They are neutral in taste and flavour and let the sausage

"breathe" for ideal maturing.

- Natural casings enhance the flavour and accentuate its specific taste.

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Raw Material

- Natural casings promote a more natural appearance.
- Especially with smaller sausages, natural casings ensure that the products have their typical firm texture.

The economical factor of natural casings

The casings trade is a global business. This is due, not least of all, to the origin of the various types of casings. Traditionally China, for example, is an important supplier of pork and sheep casings. Sausages are, however, growing in popularity with Chinese consumers, so casings from other countries (predominantly pork casings) are now also used. The Middle East, Australia and New Zealand are other important regions of origin for sheep casings. Brazil delivers excellent bovine casings with its high volume of grazing cattle herds.

Along with these product-related goods flows, traditional trade routes and relations also shape the market. Germany is a hub where the lion's share of the global trade is transacted via domestic companies, amounting to approx. 230,000 tons in 2020 alone. Rotterdam also plays a vital role as a trans-shipment point for these goods. And China plays a key role in the processing and contract processing.

Long-term changes on the global markets

Current global events and developments are also having an impact on the global casings trade. The shutdown in production and of selecting factories in important partner countries caused by the pandemic, interruptions in the trade routes and massive increases in freight rates create enormous challenges for the industry. A standard 20-foot re-

frigerated container for transport from China currently costs about four times the pre-pandemic rate. Companies and therefore also their customers benefit here from the good networking of the natural casing companies and their long years of experience in global market developments. Thanks to the long-standing close cooperation with local partners, they have access to important storage capacities and transport facilities. The availability of the goods is largely secured.

However, one trend is foreseeable: Current world events will also have a long-term effect on the market for natural sausage casings. Increasing labour costs and raw material prices, higher expenditure for infrastructure and logistics and further volatile framework conditions will influence the price level. Once again, it must be emphasised – natural

casings are not a mass-produced commodity. It is a top-quality material for a top-quality product, which meets the rising demand for natural and sustainable foods. This valuable product remains on-trend even after more than 2,000 years in use.



Christian Bierhalter

has worked in the animal-derived casing sector for 35 years now. He has been

a member of the International Natural Sausage Casing Association's Board of Directors since 2021, where he is in charge of public relations, among other responsibilities.

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Sairem

Longer shelf life with microwave pasteurisation tunnels

Sairem, a world-leading specialist in microwave (MW) and radio frequency (RF) industrial solutions based in Lyon, presents its new systems to produce fresh ready meals. The French company develops highly specialised processes for tempering, drying, pasteurising and sanitising food. Microwave tunnels are validated with excellent results and are designed for continuous processes and are among the most efficient systems available. The pasteurisation tunnels can be used for fresh ready meals or meal components.

The company's MW and RF systems optimise the tempering, cooking, and pasteurisation of all kinds of raw and processed foods, including ingredients such as fish. The use of microwaves is a thermal process that heats homogeneously, eliminates cold spots and enables precise temperature control. It's a precise heat treatment that increases yield and improves the nutritional quality of the food. Additionally, the speed of the process coupled with the right temperature settings limits bacterial growth, thereby ensuring food safety.

Pasteurisation via microwave technology is 50% more energy efficient than other heat treatment options when producing ready meals. Sairem's new generation of pasteurisation tunnels are suitable for all types of ready meals or single components. Depending on the ingredients and the customer's process, the tunnel can either pasteurise only, or cook and pasteurise at the same time. The latter is more suitable for fish and



Tests were run to assess food quality and safety, product and process, industrial and environmental performance. Photo: Sairem

seafood as it has short cooking times. However, all food options – meat, seafood, fish, vegetarian, vegan and alternative proteins – can be processed. The more sensitive the ingredient, the better MW technology is suited to it. The tunnel pasteurises at a maximum temperature of 95 to 100 °C depending on the product.

The tunnels process all types of trays no matter the size or the composition – plastic, glass or paper based. The filled trays are sealed with or without gas and the system can also be used for thermoformed packs and

pouches. An added advantage is that no packaging valves are necessary. The result is a good looking meal without vacuum.

The technology is energy efficient and 100% electric – resulting in no greenhouse gas emissions at the production plant. The shelf life of ready meals depends on the pasteurisation value, but it is usually around 25 to 30 days, assuring less food waste. The reduction of food waste and the durable, energy-efficient machines are all factors that contribute to a high level of sustainability. Additionally, the company is authorised in the processing of organic food by most international organic certification bodies.

In close collaboration with the CTCPA institute in Avignon, France, Sairem has developed a new generation of MW tunnels with patented functions. At CTCPA, tests were run to assess food quality and safety, product and process, industrial and environmental performance. A salmon recipe with sweet potato puree and green beans was tested in a consumer panel and found to have a delicious, fresh taste, texture, and colour compared to another technology. Furthermore, the test established that healthy nutrients are preserved, the need for additives is eliminated and there is no weight loss. In light of today's busy modern lifestyle, ready meals produced with these systems are a tasty, healthy solution for consumers with limited time and many different dietary restrictions.

Natural casings

High demand meets shortage of raw material

The German natural sausage casing sector recorded a busy year in 2021. Raw materials were a scarce commodity across the globe, storage and supply capacities experienced restrictions and came with sharply increased prices, while the demand for top-quality casings rose in many countries. The sector's companies are nevertheless happy with the results of the financial year. "Irrespective of the many structural challenges, our member companies reliably supplied their customers with top-grade goods," reports Chairwoman of the German Natural Sausage Casings Association, Heike Molkenthin.

Raw produce covers domestic demand in sourcing countries

Germany continues as the hub of the international sausage casing trade. A total of 209,117 t (previous year: 227,832 t) amounting to €873.6 mil. (€892.5 mil.) were traded. Of this, a full 62% was exported; in real terms, the share was 48%.

The falling figures compared with the year before are not least of all the result of higher domestic demand with important sourcing countries. China's demand, for example, is growing rapidly, influencing the global availability of sheep and hog casings in the long term. The situation is similar in Brazil, an important trading partner for bovine casings. The problems in supply chains afford this development additional dynamics: "Given the exploding freight rates, goods are staying in-land, where they satisfy the high demand for top quality sausage casings," explains Heike Molkenthin.

Sausage produce is in demand worldwide, and increasingly so in Asian countries. "Smaller sausages and fried sausages, Bratwürsts etc., are top sellers, and of course, a vast amount is produced with natural casings," adds Molkenthin. Ovine casings are popular – the fine sheep gut is considered the highest quality product and, therefore, the most expensive natural casing. But hog casings also significantly gained ground.



Heike Molkenthin is Chairwoman of the German Natural Sausage Casings Association (Zentralverband Naturdarm e.V.). The association represents the German natural casing sector and was founded in 1947.

Photo: Zentralverband Naturdarm e.V.

Intra-European trade gains traction

Intra-European trade is energising the sector. With a share value of some 54%, more than half of the goods traded via Germany went to partner countries within the EU. Export rose by 7% to €328.1 mil., with the export volume growing to 101,666 t (up from 94,907 t). Imports were somewhat weaker at 48,620 t (down from 50,805 t), amounting to €140.2 mil. (€147.3 mil.).

German natural sausage casing traders also expect continuing difficult framework conditions for the current financial year. On the one hand, this is due to the scarcity and rising cost of the required raw materials, while on the other hand, supply chains remain volatile. The Association also reports that "even if the situation in important ports such as Shanghai is gradually normalising somewhat, we will be feeling the effects in the shape of

massive traffic jams in our ports for some time to come." Goods shipped from China in April typically reach their destination port in June – these delivery times have now doubled, with costs rising accordingly, with any improvement not expected before mid-2023.

Sector seems to be well equipped for the future

The challenging market conditions notwithstanding, German natural casings companies believe they are very well equipped for the future. The industry is characterised by small and medium-sized enterprises, many of which are family-owned. "This makes us a very agile industry. Our experience, our networks and the rapid decision-making paths, also for unconventional solutions, once again come to the fore in times such as these. And our customers also benefit from them," says Heike Molkenthin.

Furthermore, the industry does not struggle with the development of follow-up solutions compared to other sectors. "With many member companies, the next generation is already waiting in the wings to take on the respective entrepreneurial responsibility," adds the Association's Chairwoman.

Labour is indeed increasingly scarcer, as it is in all industries. But the solid structures that have been developing over the years and the sound footing in the respective region also benefit natural gut businesses here. "Our companies enjoy good reputations with employees as appreciative, attractive and reliable employers."

Sausages transform into prestige products

According to natural casings experts, given the situation in world markets, sausages will become scarcer and more expensive in the future. This development does not have to damage the cult product in Germany – on the contrary: "The trend is towards higher-grade sausage goods. The innovation of the butcher trade and the meat industry is increasingly more evident in the range of sausages on offer," Molkenthin tells us. The diversity of sausage options, especially for grilling, is growing rapidly, and especially for the next generation in the butcher trade. The creative range of sausages is like a "business card" for their shop, be it bricks and mortar or online. Consumers also increasingly view top-quality sausages with natural casings as a prestige product: "Those who previously focussed only on their premium gas barbecue, smoker or other premium hardware, now tend to impress their guests with a selection of fancy grill sausages," is the message from the Association. Artisan butchery, meat industry and food retail consequently open up appealing value creation possibilities for the cult product.