

Iffa 2019: food safety is the key word

Hygienic design, sustainable skin-packaging, digitalisation and solutions designed to ensure much safer food. These are the top themes in the meat-processing industry.

by Eleonora Davi

Food safety, hygiene, waste prevention, sustainability, resource efficiency and traceability. They are the top themes discussed on the occasion of **Iffa**, the leading trade show targeting the meat industry that took place from May 4th to 9th 2019 in the exhibition area of **Messe Frankfurt**, Germany. In addition to new solutions designed to ensure greater food safety, companies presented the latest trends and developments in the meat-processing industry.

Food safety

Sustainability, in terms of resource usage and the employment of energy-efficient processes long the entire value chain, is one of the foremost challenges of our time. And this applies to the meat-processing industry, too. The manufacture of safe and hygienically acceptable products is a matter of top priority in the butchering and meat processing trades. To exclude the risks of microbiological contamination, or at least to reduce them, principally in areas where there is direct contact between the workforce and the products, it is necessary to replace manual activity with automated processes as extensively as possible.

Digitalisation

Optimising production processes is increasingly based on digitalisation and interlinked networks. Increasing production security and optimising machinery usage is the objective. In fact, in the 'smart factory' products and machines must communicate with each other and organise, regulate and monitor themselves. In order to guarantee so, it is important to have ready availability, at all times, of status data on products, machinery and so on. This task is undertaken by 'smart sensors', which include integrated micro-processors for processing and analysing the signals. They record temperature, power usage, torque, pressure, gases and microbial contamination. Furthermore, thanks to the help of intelligent sensors, possible malfunctions can be resumed in real time through noises or sudden vibrations. Irregularities are monitored online and evaluated through a condition monitoring software.

Hygienic design

Reducing human input into the manufacturing process is very important. But first and foremost, in terms of hygiene it is also important that devices, appliances, machines and installations are built according to the principles of hygienic design. According to these prescriptions, it is important to avoid dead spaces, undercuts, depressions and crevices

SMART MANUFACTURING CAN IMPACT FOOD AND BEVERAGE MANUFACTURERS WITH:

- Better information at the right time
 - Food safety
- Supply chain seamlessness
 - Responsivity
 - Customization
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- Process improvement

where residues of products that create fertile soil for the onset of microbes could easily deposit. Additionally, hygienic design is about making machinery and plant cleaner-friendly, so that they can be cleaned more easily, more thoroughly, more quickly and in a way that is more sparing of resources. It means that cleaning materials and disinfectants can drain off unhindered.

Metal detectors and X-ray technology

Another important component of the guarantee of greater food safety is the introduction of technologies that can detect the presence of foreign bodies in meat and cold cuts. In fact, during each phase of the manufacturing and packaging process, part

of machines and plants can break or detach and end up in the products. Metal detectors and X-ray equipment can help. They can detect foreign bodies such as ferrous metals inside food and packaging and they can be used to spot foreign matters like stones, glass, bone or plastic that can appear in products. Then, both monitoring system can be link to a rejection system, in order to remove contaminated or deficient products from further processing stages automatically. In this way it is possible to check for any inconsistencies in terms of completeness, weight, capacity and shape.

Focus on smart packaging

As well as packaging machines and plants, packaging materials, especially those that are easily perishable such as meat and cold cuts, require very high standards. Multifunctional, active and intelligent packaging opens up new perspectives for the meat industry. It monitors and records the environmental influences to which the product has been subjected along the value chain after the packaging stage. Integrated time-temperature indicators reveal the current quality status, degree of freshness, any breaches of the cool chain and whether the product is still suitable for consumption. Modified atmosphere packaging for meat and cold cuts is evolving into the standardization of the meat-processing industry, also because it extends the shelf-life of the product. The reduction of packaging and the use of recyclable packaging are two issues that focus on consumer attention. Nowadays, modern packaging machines have evolved and allow the parameters of the films to be set precisely for more economical processing. The innovative packaging in Skin-Pack, therefore, which uses cardboard as a support for the product, allows the presentation of the product in an elegant way, prolonging storage times and reducing material consumption.

Food safety is also protection against food fraud

To ensure better food safety and product authenticity it is necessary to resort to a universal, digitalised and tamper-proof traceability system. In fact, traditional analytic procedures are too complicated, laborious and time-consuming. The fight against food fraud demands flexible, sufficiently accurate and rapid testing methods that are mobile and can be used continually in-line. An example of this is non-invasive Nir spectroscopy which allows to check the quality and identity of incoming goods in just a few seconds, even in the case of products packaged in glass or in trays.

Parola d'ordine: sicurezza alimentare

Sicurezza degli alimenti, igiene, riduzione dei rifiuti, sostenibilità, efficienza delle risorse e tracciabilità. Sono i temi affrontati in occasione dell'ultima edizione di **Iffa**, fiera leader dell'industria della carne a livello internazionale, andata in scena negli spazi espositivi di **Messe Frankfurt**, dal 4 al 9 maggio 2019. Oltre a nuove soluzioni tecnologiche per una maggiore sicurezza alimentare, le aziende hanno presentato le ultime tendenze del settore della carne. Fra tutte, spicca la smart factory che, con soluzioni automatizzate e software all'avanguardia, rende la produzione e i processi più intelligenti, efficaci e sicuri. La sicurezza alimentare, infatti, è il tema centrale. A tal proposito, nel settore del confezionamento, sono state presentate soluzioni intelligenti per proteggere gli alimenti.