

‘Meating’ customer standards: helping retailers address quality demands

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For retailers, it is imperative that the products they offer meet consumer expectations. For example, recent consumer trends for healthier eating have put pressure on retailers to provide meat with lower fat content that offers the same quality and safety as standard products.

Meat producers have to meet these demands for lower fat meat, without sacrificing the taste, texture, colour or freshness, that are signals of quality to consumers.

But how can manufacturers help alleviate pressure on retailers when they face pressures of their own?

The globalisation of the food market, coupled with the rising cost of raw ingredients, increasingly impacts meat producers' bottom lines, leading them to look carefully at the efficiency and profitability of their manufacturing processes.

Also, how can manufacturers address their own requirements and meet retailer demands for product quality?

Do you sacrifice quality?

In the past, meeting such strict retailer demands for safe, high quality meat products with low chemical lean (CL) was extremely challenging for manufacturers.

However, the development of fully-automated in-line product inspection and fat measurement technologies has allowed meat suppliers to ensure that each individual piece of meat passing through the system is checked in real-time to make sure they meet retailers' needs.

To analyse fat content, manufacturers traditionally used core sampling to test meat cuts, a method that required samples be taken from different sections of the meat to determine its overall CL value.

The process had its disadvantages, as it could only be used to test a small selection of the product passing through the production line and

was only able to generate an estimate rather than an accurate calculation. This presented a problem as manufacturers could not be sure that the products they supplied to retailers genuinely had the fat content claimed on the pack, leaving them and their customers open to costly fat claims

However, thanks to innovations in x-ray technology, manufacturers are now able to take advantage of fully-automated fat measurement systems to check the CL of all of their products accurately and in a non-invasive way.

With advanced x-ray based fat measurement, featuring Dual Energy X-ray Absorptiometry (DEXA) in particular, manufacturers are able to discriminate between fat and lean to within a $\pm 0.5\text{CL}$ differential throughout the entire product, rather than a small sample.

Formerly used in the medical industry, DEXA is becoming increasingly popular among meat manufacturers. The technology uses an algorithm that compares the ratio between two different x-ray energy spectra.

This allows the average atomic composition of the meat to be determined which enables accurate CL values to be measured. The ability to gain such precise information, so rapidly, not only helps manufacturers reduce product waste, but also maximises product quality for retailers and ensures they are able to offer meat with lower fat content without the risk of fat claims.

Quality includes safety

X-ray technology is not only useful for fat analysis; it can also allow manufacturers to ensure their products are safe to eat by scanning packs for harmful foreign bodies, such as calcified bone, glass or metal shards, rubber or dense plastics.

The technology is able to penetrate metal or glass packaging to identify even minuscule foreign body fragments, enabling sub-standard products to be removed before they reach end consumers, helping to uphold retailers' brand reputation



Product inspection.

and safeguarding manufacturers from costly product recalls.

An image is generated from the energy beamed from the x-ray through the meat. Certain contaminants may absorb more energy making them stand out among what would be an otherwise crowded and busy image.

Using an automated rejection system, sub-standard products are easily removed from the production line without the need to stop the conveyor. This ensures optimum product safety and quality for retailers and white labellers, while enhancing efficiency for manufacturers.

Keep the brand reputable

Brand owners need to be particularly aware of fat content and product quality.

Partnering with a reputable manufacturer with high-performance inline fat measurement and product inspection processes on their line ensures that the meat they offer is healthy, safe, and high quality – upholding their brand reputation with consumers.

When making their selections, consumers tend to veer towards the brands they know and the labels they trust. If consumers start to associate a certain label with poor quality meat then they will be less

likely to remain loyal, turning to other brands for their food.

The last thing a brand owner needs is a product recall due to a food quality, safety incident or sub-standard machinery.

In July 2014, a Texas grocery chain had to recall approximately 75,565lb of 13 different beef products from its stores, due to the possible presence of foreign material.

The recall followed workers in the factory discovering metal shavings in products from a failed bearing in an auger machine.

Customers ask, we deliver

As demand from consumers for healthy, high quality meat grows, pressure from retailers on manufacturers to meet their requirements will continue to increase.

Advances in technology allow for more accurate fat measurement and product inspection than ever before, enabling manufacturers to meet retailer and consumer expectations.

By procuring meat from manufacturers who use such innovative systems, retailers can feel confident knowing end consumers are receiving products that are lean, safe and of consistent high quality. ■

References are available from the author on request.