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F O I L E D

ISSUE 4

Ensuring conformity in production

Technologies and procedures to
guarantee conformity

An interview with NFU Mutual

Darren Seward discusses the
importance of food hygiene

The question of cost

Boosting profits, without
increasing prices



EDITOR'S LETTER

Before we delve into this issue of *Foiled*, we've got some big news for you.

As a valued reader, we want to hear your views and thoughts on some of the most concerning topics in today's food industry.

Soon, we'll be sending you a short survey. After collecting the results, we will report on the findings in the next issue of *Foiled*, so keep your eyes peeled.

But what's instore for this issue?

We're taking a closer look at contamination and hygiene on page 10. It turns out, consumers need more clarity on the matter.

If you turn to page 11, we ask Nestlé and McCain about their sustainability-related challenges.

We're also quashing a huge industry misconception on page 7. Can you put an aluminium foil tray in the microwave? You may be surprised.

If you would like to contribute to future issues of *Foiled*, please get in touch. *Foiled* is a hub of shared knowledge for the entire community and we welcome our readers to be a part of it.

Until the next issue,

Miguel Campos

Miguel Campos

A WORD FROM... ANTHONY DEBUS Head of UK Sales



Food production has never been without challenges. If you compare today's challenges with those from previous industrial revolutions, the key drivers remain the same.

At the heart of every food manufacturers' objectives is be efficiency. Remaining afloat in this competitive industry is about staying ahead of new food trends and delivering what consumers demand — and to do so, it is essential that manufacturers maintain trusted processes, with credible suppliers on tow.

What challenges has your business overcome recently, and what lessons learned have you taken forward in the business? We'd love to hear from you.

CONTENTS

4

The question of cost

Boosting profits, without increasing prices

6

An interview with NFU Mutual

Darren Seward discusses the importance of food hygiene

7

Make it microwaveable

Exploring the role of convenience in modern food production

8

Ensuring conformity in production

Technologies and procedures to guarantee conformity

10

Do you believe in the 'five second rule'?

And other questionable food preparation myths

11

The sustainability challenge

McCain and Nestlé discuss production, farming and packaging sustainability

THE QUESTION OF COST

30p for a Freddo?

Last year, British chocoholics took to the streets of London and Cardiff to protest the rising cost of Cadbury's Freddo bar. The frog-shaped chocolate cost just 10p when launched in 1994 but has since risen by 200 per cent. Following the humorous outrage of the British public, Cadbury reduced the price to a slightly-more-modest 25p per bar.

Clearly, inflating the price of a product shouldn't be taken lightly. However, increasing RRP's is not the only method food manufacturers use to boost their profits. Reducing portion sizes, without price — also known as 'shrinkflation' — has long been a habit of the confectionary industry.

Mondelez International was exposed of this in 2017. The company, which bought Cadbury in 2010, had quietly increased the space between each triangle of a Toblerone bar. The price of the product? It didn't budge.

The move was justified by Mondelez International due to rising commodity costs, which there's no doubt is a valid issue. However, it did not soften the negative media backlash that followed. Clearly, there's nothing more damaging than a disappointed chocoholic.

The question of cost is a delicate one. That said, there are ways to increase profits in food manufacturing without negative consumer implications.

1. Reducing waste

Lean manufacturing encourages the reduction of waste in all manufacturing sectors. However, the cost of wasted inventory in food manufacturing can be particularly high. In fact, according to the United Nations, almost 2.9 trillion lbs of food goes to waste every year.

These wastages can be a result of defects, rejects and breakages — many of which are unavoidable. However, there are

ways to reduce the cost of these rejects. Consider Nestlé's Kit Kat as an example. When a Kit Kat is not up to standard, the bar in question will go into a reject pile. However, rather than dispose of them, Nestlé chooses to crush rejects into a biscuit-like wafer, to be used as a filling for other bars.

Some breakages and defects cannot be prevented. However, there are ways to return some ingredients to the manufacturing process. Peelings, trimmings and discarded meat cuts all have potential to be reused. However, the money saving potential of this does depend on the product in question.

2. Increasing shelf-life

When exploring methods to reduce overheads, buying in bulk has always been a sure-fire way to get products at a lower cost. However, when dealing with perishable ingredients, over-purchasing can be dangerous and costly. If demand for a product is not there,

manufacturers can be left with high volumes of unpreserved stock.

"Manufacturers do not have much control over the shelf-life of raw ingredients, but there are ways to increase the lifespan of the products they produce."

Manufacturers do not have much control over the shelf-life of raw ingredients, but there are ways to increase the lifespan of the products they produce. For example, using modified atmosphere packaging (MAP) can dramatically increase the lifespan of meat. Poultry, for example, usually has a shelf-life of three to ten days but can withstand an impressive 21 days with MAP.

With longer shelf-lives, manufacturers have a longer period to sell this product to

retailers. This also reduces the likelihood of rejected orders from supermarkets, due to unacceptably low shelf-lives.

3. Stick to your suppliers

Bulk purchases may not be ideal for perishable ingredients. However, stocking up on unperishable items, like food packaging, can help manufacturers to save cash. Choosing a reliable packaging supplier can ensure manufacturers do not run out of the exact tray, box or bottle they require for production. That said, we don't encourage manufacturers to fill their stock rooms to the brim.

Instead, establishing relationships with suppliers enables manufacturers to get the right product for the best possible price, but without the need to excessively over-purchase a specific item. But if they do over-purchase, they also have the option to sell aluminium packaging back to

their supplier for some healthy reimbursement.

Let's face it, the food manufacturing realm is subject to ever-changing regulations. Not to mention the ever-evolving trends desired by consumers. Therefore, committing to a specific packaging option may not be advantageous for new product lines. Establishing a relationship with a supplier can provide the flexibility of changing packaging when required, while remaining cost-effective.

Reducing waste, increasing product shelf-life and establishing supplier relationships are unlikely to trigger protests by unhappy customers. Admittedly, not all consumers are as passionate as Cadbury's Freddo enthusiasts, but manufacturers should always look for alternative ways to boost their profits, before causing negative implications for the customer.

AN INTERVIEW WITH NFU MUTUAL

As part of its Food Hygiene Ratings Report, NFU Mutual asked owners of hospitality and retail businesses what they consider to be the top risks to the future of their company. Perhaps unsurprisingly, increased competition, damage to reputation and increased regulation came out amongst the top concerns.

Advanta spoke to Darren Seward, Food and Drink and Hospitality Sector Specialist at insurer NFU Mutual, about the importance of hygiene in relation to reputation management in the food supply chain.

Could you provide a quick overview of findings from the Food Hygiene Ratings report?

Our research found that getting a good food hygiene rating is extremely important — and the majority of businesses are getting hygiene right, but there are of course also those that aren't. Consumers becoming more aware of food hygiene ratings can only be a good thing for standards, consumer trust and the reputation of the food industry as a whole, if businesses work hard to get it right.

Do you believe manufacturers and processors should be held as accountable to hygiene standards, as restaurants are?

There is a plethora of legislation that governs the processes of manufacturers and processors, which makes them accountable.

Many will also supply to supermarkets, who will add an additional layer of requirement, such as a BRC Global Standard Rating.

What there perhaps isn't, is the visibility of this level of governance and accountability to the general public, and more could and should be done to promote this.

What can be done to improve the knowledge of producers, and therefore the insight they can give to customers?

Regardless of their size, all producers should ensure that they have access to the right expertise to be able to develop a food safety management system based on Hazard Analysis and Critical Control Points (HACCP) principles, and that they can apply this specifically to the food safety risks present within their unique process.

Where necessary, a business should be prepared to involve other people with specialist knowledge on a range of subjects such as equipment, packaging and microbiology.

Do you think consumers actually consider hygiene in manufacturing when choosing brands from the supermarket shelves?

Consumers are now looking for brands they can trust in general, with hygiene forming part of that picture but also reaching right through to provenance, nutrition, ingredients and so on.



Darren Seward,
NFU Mutual

Our Food Fraud Report investigated the effect that high-profile issues in the media have caused upon trust and unfortunately 33 per cent of consumers said that they were less trusting of products and retailers than five years ago.

Finally, what can manufacturers do to improve customer trust?

If manufacturers can provide more visibility around their governance and certification, and on areas such as the provenance of their food or hygiene processes, it could help to improve this trust and impact positively on sales. Those manufacturers who place importance on good food hygiene practice now and provide transparent information about it to consumers are likely to reap the benefit.

The mentioned reports and references can be found at:

www.nfumutual.co.uk/foodhygiene
www.nfumutual.co.uk/foodfraud



MAKE IT MICROWAVEABLE

Salted water boils faster, alcohol burns off when heated and refrigerated bread lasts longer. Cooking myths can often be convincing, but despite being engrained into our kitchen habits, not all of them are true. But, what about the rule to never microwave aluminium?

Here's the truth.

At one time or another, we've all been warned not to use metal in a microwave— and if you've ever accidentally left cutlery inside, you will know exactly why. Without getting into the science of it, metals reflect microwave energy, causing the kind of snap, crackle and pop you probably didn't expect from your breakfast. That said, there are ways to use aluminium safely in the microwave.

Sceptical? Hear us out.

The United States Department of Agriculture (USDA) has a list of safe and unsafe containers for

microwaving, as well as guidelines for cooking safely. It explains that some food packaged in foil containers can be safe to microwave. Acting in the same way as the metal walls inside the microwave, the sides of an aluminium tray shield the meal and protect it from overcooking — rather than reflecting dangerous radio waves.

While we don't suggest you pop a roll of aluminium in for a three-minute spin, using aluminium trays in food packaging doesn't necessarily mean the meal in question cannot be microwaved. However, it is essential to confirm this fact with your food packaging supplier before making any microwaveable claims to the customer.

As with all cooking myths, there will always be customers that fear the consequences of using an aluminium tray in the microwave, despite it being proven to be safe. However, providing these

customers follow a few simple rules, there is no risk of opting for the microwave when cooking a ready meal in an appropriate aluminium tray. For food manufacturers, be sure to highlight these steps on your packaging:

To microwave an aluminium tray safely, the meal must not touch the walls of the microwave itself. Additionally, only one aluminium tray should be used in the microwave at one time, and as with most microwaveable meals, aluminium or not, the lid must be removed from the tray before use. There you have it. Simple as pie.

Cooking myths do tend to have a little truth behind them. You should only microwave aluminium trays that are designed to do so. But, in today's convenience-heavy ready meal market, they all should be, right?

Our advice?
Make it microwaveable.

ENSURING CONFORMITY IN PRODUCTION

Conformity in food production isn't as simple as ensuring every doughnut on the conveyor has a generous dusting of sprinkles. Well, not entirely. The fundamental requirement of conformity is that every single item is produced to an exact specification, this includes the product's ingredients, weight, taste and packaging.

Often, conformity is simply a requirement to ensure a food product is presented to the customer in a way that they expect. This could be as simple as packaging all meals from a particular range in the same style of packaging, to provide the same feeling to the customer when handling the product. But there's more to it.

"Ensuring conformity in ingredient ratios guarantees that the customers' expectations of the product are met."

Conformity in ingredients

Conformity can also relate to more complex production issues. For example, failing to ensure each ready meal on the production line has the same ingredient ratios can have negative implications on a brand's reputation. Let's face it, no one likes to discover they've been short-changed on the cheese in a macaroni cheese meal.

Ensuring conformity in ingredient ratios guarantees that the customers' expectations of the product are met. However, failure to conform also runs the risk of rendering a product's nutritional information — such as its calorie count and salt content — as inaccurate, which can have negative regulatory implications.

New technologies for product inspection, such as x-ray technology, can be used to check for missing items within a product. For instance, in a packaged raw chicken dish, the x-ray can count the amount of chicken breasts sealed in a tray, ensuring it is the same amount that is advertised on the labelling.

X-ray gross measurement can also be used to check the overall weight of a food package and reject any that do not fit within the specified weight range. This can also be used for more complicated product types, such as ready meals.

Using zoned mass measurement, the technology can measure the mass of each compartment of a ready meal. This ensures that, in a microwavable chilli dish for example, an underfill of chilli isn't compensated by an overfill of rice in another compartment.

"Food products that do not meet food safety, quality or regulatory requirements should be adequately identified to prevent accidental use."

Dealing with non-conformity

Once products have had their contaminants, weight and packaging inspected, the products will be sent to retailers for

positioning on the supermarket shelves as quickly as possible. However, if things don't go to plan, and non-conformity is discovered, then there are important steps to take to mitigate further consequences.

All food products that do not meet food safety, quality or regulatory requirements should be adequately identified to prevent accidental use. The most common methods that is seen by a food auditor is the use of 'hazard stickers' and designated storage or quarantine areas. This is an effective way of keeping the reject products from re-entering the supply chain. However, there are ways to reduce the likelihood of non-conformity from the outset.

Conformity from the outset

Suppliers and partners that serve the food industry should all have their own regulatory knowledge of conformity. Before working with a new supplier, it is beneficial to ask about their own conformity protocols.

A supplier of ingredients for food production, for instance, should be able to disclose exactly where it sources its ingredients from. In fact, the supplier should have no hesitation to discuss this openly and identify any traceability and quality management systems they have in place. Similarly, a supplier of packaging should be able to guarantee they can continually deliver the required packaging a manufacturer requires for its production.

"Advanced product inspection technologies are available to help."

The requirement of conformity ensures a product's presentation and packaging integrity, as well as confirming that every item is manufactured in the same way. Thankfully, advanced product inspection technologies are available to help, and manufacturers should take their own steps to check conformity from their suppliers.

TIPS

- Enforce crucial equipment inspections regularly
- Regulation compliance should be based on trading agreements, location and product type
- Invest in reliable inspection detection to remove contaminated products from the production line
- Traceability monitoring should be in effect throughout the production process
- Accurate labelling should be used across your products
- Accurate weight targets and check-weighing technology help detect any discrepancies
- Consistency is key

DO YOU BELIEVE IN THE 'FIVE SECOND RULE'?

According to a survey of 2,000 people, 79 per cent believe in the 'five second rule'. The myth claims that if you pick up food from the floor within five seconds of dropping it, the product is still safe to eat. Admittedly, most surfaces won't contaminate food with dangerous germs instantly, but many will carry enough dirt to transfer some bacteria.

The five second rule carries a little risk. However, much like the hygiene myths surrounding reheating rice and washing raw chicken, most consumers are willing to risk it for a chocolate biscuit. Heck, let's make it the ten-second rule if triple chocolate cookies are on the table, or in this case, on the floor.

Unlike consumers however, food manufacturers cannot be so lenient with their food hygiene procedures. Most food production sites will have vigorous policies in place to ensure their processes operate hygienically. In fact, hygiene and contamination management have become two of the most important considerations in modern manufacturing, and rightly so.

Following fears of glass in food products from Walmart-owned ASDA in 2017, food manufacturers were warned to be more vigilant in guarding against foreign body contamination. While the fault wasn't related to the site's personal hygiene procedures, the facility's Hazard Analysis and Critical Control Points (HACCP) principles were not up to standard to detect this fault.

The scandal affected multiple retailers and resulted in costly recalls, legal action and affected consumer trust. In fact, according to NFU Mutual's *Food Fraud Report*, high-profile cases like this can dramatically damage customer confidence, with 33 per cent of

consumers stating they are less trusting of products from retailers today, than they were five years ago.

But, how can food manufacturers rebuild this relationship?

Consumers want clarity. As part of *Which?'s* Future of Food report, 58 per cent of respondents identified food safety standards as an area where they felt they needed more information from manufacturers. Today's food production sites simply aren't vocal enough about their positive hygiene and contamination practices.

Because of this lack of communication, any news is usually bad news — the 2013 horsemeat scandal and the 2018 listeria outbreak are prime examples of this. However, rather than taking a crisis management approach to public relations, manufacturers should instead provide greater transparency of their procedures, as well as any certifications from their supply chain.

At Advanta, we provide food manufacturers with proof of our full HACCP hazard analysis program. This ensures that our production practices, for the manufacture of foil packaging products, prevents the possibility of cross contamination. By making consumers aware of these efforts, manufacturers can begin to rebuild the delicate trust between product and public.

Without providing evidence of food hygiene efforts, consumers are left guessing as to whether a product is safe to eat — and unlike the small risk related to the five-second rule, failure to maintain hygiene and contamination in large-scale food processing can have detrimental effects.

THE SUSTAINABILITY CHALLENGE

There's no doubt about it. The food industry is full of challenges. Here's how three businesses have tackled their own sustainability challenges, head on:



Sustainable production models

Consumer demand is hard to keep up with. For a business to be sustainable, it has to be responsive and adaptable to what consumers want and need. Seeing more food manufacturers reducing sugar in their products is a great example of this. Nestlé is currently leading the way in reformulating recipes that are lower in sugar, but still have the same great taste.

The amount of sugar in Nestlé's UK and Irish products has been reduced by more than 2.6 billion teaspoons since 2015. A report, issued by Nestlé, reveals that more than 60 billion calories have also been removed from the company's product portfolio.

Stefano Agostini, CEO of Nestlé UK & Ireland said:

"It is not as simple as just removing sugar from a product, the skill is in making that product taste just as good or, ideally, better. We have an unrivalled research and development network across the globe that makes this possible."

Sustainable farming

By 2050, some 80 per cent of the world's population will live in cities. Such growth is placing immense pressure on our built infrastructure and driving considerable research and exploration into sustainable development.

If population growth follows its projected path, there simply won't be enough land to farm many of our foods by 2050. Vertical farming may be the answer.

It is the practice of producing food in vertically stacked layers, in a skyscraper, used warehouse, or shipping container to name just a few building types suitable for this type of agriculture.

McCain Foods Limited, has recently completed a strategic investment in TruLeaf Sustainable Agriculture. TruLeaf has developed proprietary indoor vertical farming technology to grow fresh and nutritious leafy greens of high quality and flavour, in an environmentally sustainable way, 365 days per year.

Max Koeune, President and CEO of McCain Foods Limited said:

"McCain has a 60-year track record of advancing agricultural practices to the benefit of crop quality and environmental standards. Over this time, we have worked closely with many research institutions, technology partners and of course, our global network of growers. We remain committed to this approach and as such are always looking to partner with innovative businesses like TruLeaf to continue to set new standards for environmental care and efficient crop production, through advancing agricultural technology".



Sustainable packaging

It's on everyone's lips at the minute, but how has foil packaging supplier, Advanta, taken on the challenge?

John Threlfall, finance director of Advanta said:

"When creating aluminium alternatives to plastic packaging, it's our job to ensure these sustainable options are fit for purpose. For many years, foil trays only came in wrinklewall form. That's before we endured intense research and development to source an alternative that would transform the food industry.

"Advanta was the first company to develop the plain silver smooth wall tray that we're all so used to seeing oven ready meals packaged in. Before Advanta created this product, a plain

silver smooth wall option wasn't available without the addition of an expensive lacquer layer. However, this priced a lot of food manufacturers out of using the product.

"By working closely with metal suppliers, Advanta developed an effective process that enabled the team to bring a smooth walled tray in plain silver to market, totally removing the need for spending extra on lacquer. This was an important milestone for the industry and Advanta, as a lacquered smooth wall tray can be up to 100 per cent more expensive.

"This provides an attractive and recyclable packaging option, that is financially accessible to food brands."

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