



BILLERUDKORSNÄS

Smarter PACKAGING

A magazine from BillerudKorsnäs #4



Garlic kick

Male order

How to package a new
line of sweets for men



A taste of
things to come.
Page 14.



Smarter Packaging

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Made in Italy:
A pizza box unlike any other

CONFIDENT CHOICES

During the summer, our digital campaign Challenge Conventional received widespread attention. It spread throughout 153 countries and allowed us to show that we take sustainability seriously and also enabled us to involve and engage more people in making confident choices in packaging. When used correctly, packaging has both environmental and financial benefits. In this respect our solutions are leading the way and we want to be a knowledge partner in our customers' developmental work. Together we can create optimal packaging solutions that do not leave a negative legacy for our children and grandchildren. Nothing is forever, and that goes for packaging too.

At BillerudKorsnäs, we are constantly developing smarter, lighter and safer packaging. We have come so far now that we can make sacks completely disappear. In this issue of *Smarter Packaging* you can read about our award-winning dissolvable cement sack. You can also read about food safety in packaging and about our sensory lab, which ensures the protection and safe-keeping of a product. In the food business this is essential for our customers to feel confident that their choice of material will not affect their product.

To read more about how we challenge ourselves, visit our campaign site: www.challengeconventional.com

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Frizle's revolutionary spätzle squeezer



Romain Troublé,
Secretary General
at Tara Expeditions.



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PETER MALMQVIST
Marketing Director at BillerudKorsnäs AB

PHOTO: ANNA-LENA LUNDOQVIST

Calendar Fall 2015

20–23 October Scanpack, Gothenburg, Sweden

21–23 October Luxe Pack, Monaco

28 October FEFCO Technical Seminar, Barcelona, Spain

31 October Medical exhibition, Cardinal Health Supplier Mart, USA

3 November Pace, Singapore

12 November PIDA, Germany

12 November Capital Market Day, Stockholm, Sweden

16–19 November Compamed, Düsseldorf, Germany

Indian branch up and running

BillerudKorsnäs opened its first branch office in India in April.

M/s BillerudKorsnäs Packaging India Pvt Ltd is located in Gurgaon, a burgeoning financial and industrial centre near New Delhi.

Until now, the company's operations in India have been managed from Dubai. But a new office represents a strategic move to realise India's full market potential. BillerudKorsnäs is increasingly working with Indian

converters and brand owners, primarily with medical, interleaving, flexible packaging and sack paper solutions.

BillerudKorsnäs India staff include Rajeev Goyal, who heads the office as well as market and business development; Madhvi Lijhara, who is responsible for sack solutions and bags; Zaheer Abbas, who is responsible for consumer laminates; and Bharat Verma, who is responsible for medical and speciality papers. ●



Rajeev Goyal



First US sales office opens in Miami

BillerudKorsnäs has been operating in the US for some time. Now it has opened its first sales office in Miami, Florida, as part of its efforts to strengthen the brand outside Europe.

Miami's strategic location between North and South America made it a

natural choice for the company's first US office. Miami International airport is a major hub for travel between the US and Latin America. Many Latin American companies are also headquartered in Miami.

Henrik Andén, Regional Sales Director, Americas, says: "It is very



positive that BillerudKorsnäs has decided to invest in this region. It is good that we will be able to work within the same time zone as our customers and it will help us open up new relationships."

PHOTO: ISTOCKPHOTO



Gävle boosts kraftliner quality

A substantial investment in paper machine No.4 has paved the way for an upgrade in coated liner.

A SEK 220 million upgrade of paper machine No.4 at the BillerudKorsnäs paper mill in Gävle has significantly improved the print quality of BillerudKorsnäs Coated White Top Kraftliner products.

The rebuild took place at the end of 2014 and involved the installation of a new headbox for the top side of the liner, a breast roll shaker for the back side, a smoothing press and new dewatering elements.

The changes have resulted in improved fibre formation and fibre orientation, with better print results on the liner, as well

as increased smoothness and strength and stiffness.

BillerudKorsnäs recently launched upgrades of the coated liners BillerudKorsnäs Design, Decor and Supreme, with major improvements in smoothness, whiteness and SCT strength. ●

Improvements

- Better print result and whiteness, less washboarding for enhanced shelf impact.
- SCT strength for further lightweighting and reduced costs.

The disappearing cement sack



A cement sack that dissolves in water when concrete is being mixed has been designed by BillerudKorsnäs and Lafarge, the French cement company that recently merged with Switzerland's Holcim to create the world's biggest building materials group.

The D-sack is the result of a three-year research and development project between the two companies.

Lafarge wanted a cement sack as robust and moisture resistant as any other on the market but it also wanted it to dissolve in cement mixers without affecting the quality of the concrete.

"It was a completely user-driven idea," says Mark van de Merwe, Business Development Director for Sack Solutions at BillerudKorsnäs in Germany. "Lafarge was looking to deal with the problem of dusty workplaces and make life easier for the construction workers who handle these sacks every day."

The D-sack means that construction workers no longer have to deal with dust and skin complaints and solves the problem of how to dispose of empty sacks. It has also provided LafargeHolcim with a product that no one else can match.

"This innovation is a great example of how we can offer 'upstream' innovations to our clients through packaging," says Fabio Dallan, Vice President Retail Business, LafargeHolcim.

BillerudKorsnäs recently won the Innovation in Sustainable Packaging award for the D-sack at the 2015 PPI Awards in Chicago. ●

Most guys wouldn't dream of giving each other chocolates before heading out for a night on the town. But a clever new product line from a Berlin designer could change everything.

Just for men

TEXT MICHAEL LAWTON PHOTO LENE MÜNCH

You don't typically see men giving boxes of chocolates to each other before heading off to a football match. Chocolates tend to go with love, birthdays, get-well wishes and wedding celebrations or new babies.

However, Berlin-based designer Katrin Warneke is challenging gender stereotypes, as well as the buying habits of confectionery lovers, with a new product line aimed squarely at men. "I wanted to provide new opportunities for giving presents and for recognising others," she explains.

Warneke is an old hand at confectionery, having already produced K's Soul Food Kitchen, a successful range of sweets distributed by Germany's largest confectionery chain Hussel. But with *isso*, her new line of chocolates for men, she is exploring uncharted territory. "I wanted it to be a bit ironic," she says. "But if some men who are not ironically inclined decide to take it seriously, well, that's okay too."

The designer has again partnered with Hussel in developing *isso*. The product name borrows from a masculine German expression meaning something like, "That's how it is – period." However, she says the full expression – *es ist so* – also has an almost meditative quality: "It is as it is."

Warneke has played on this multi-dimensional theme in creating the logo, in which a silhouette of a rhinoceros symbolises "a tough skin with a soft centre."

The *isso* range consists of six individually named items of confectionery: *Voll krass* ("totally crass"), a chocolate bar embedded with pieces of roasted garlic; *Yeah!*, a lemon truffle with a sherbet filling that explodes in your mouth; *Volltreffer* ("back of the net"), a milk chocolate praline; *Durchbeissen* ("hang in there"), a milk chocolate hazelnut block; *Komm mal runter* ("just relax a bit"), a gummy bear in a lotus position; and *Respekt*, a chocolate truffle with gold dust.

"You might give a box of *Respekt* to someone to say that you thought they had faced up to a problem well," Warneke says. "Or you might give *Yeah!* to someone before going out for a night on the town."

The new ideas embodied in the product also required new packaging and Warneke decided on a simple, untreated box that was the shape and size of a DVD box set, with a printed sleeve cut at an angle.

Using BillerudKorsnäs Light, packaging company Richard Bretschneider folded a hollow-walled box with the uncoated side on the outside and used the coated side of the same cartonboard for the wrapper. Sales



Katrin Warneke





The rhinoceros logo symbolises a tough skin with a soft centre.



Boys will be boys: The packaging is a simple untreated box, the shape and size of a DVD box set.





representative Oliver Schruett says: “We used a fairly light 250 gsm board and found it to be very stable. With most other products we would have had to go for a heavier material.”

But the cartonboard did pose a few challenges. “The brand name is embossed in bronze on the untreated board and we had to try several different pressures and temperatures to make sure it came out distinctly,” Schruett says.

Another challenge came in the form of the wrapper, which on most boxes was to be dark blue with a brightly contrasting colour for the product name. “It’s not easy to get a smooth and even finish over such a large area,” Schruett says. “And we had to experiment for some time to find bright colours that wouldn’t fade and were safe for food.”

One of the things that Warneke likes about the untreated board is that it’s a bit unpredictable. “It’s a game of outside and inside,” she says, referring to the way that the play between the uncoated and coated cartonboard creates contrasting experiences. The fact that the brand name is on the “natural” untreated side and that the blue ink looks completely different depending on whether it’s on the treated or untreated board only adds to the effect. ●

A matter of taste

To make certain that packaging doesn’t affect the taste and smell of the food it contains, BillerudKorsnäs has set up a Sensory Lab in central Sweden.

TEXT JONATHAN EWING PHOTO ALEXANDER VON SYDOW

The Sensory Lab is part of the Quality & Product department at the BillerudKorsnäs mill in Frövi. Its main objective is to make sure that the cartonboard produced at BillerudKorsnäs mills in Frövi and Gävle protects food without negatively affecting taste.

Torbjörn Lorin, Quality and Product Care Engineer at BillerudKorsnäs, says: “We must be sure that our products do not have an off-taste or off-odour. So the sensory tests are conducted in order to verify that our cartonboard is appropriate for use in food content packaging.”

The Sensory Lab assesses both the quality of the raw materials and the finished product, with a tasting panel made up of volunteers from the factory tasting the packaged food and rating it.

The tasting tests are conducted in a room designed and fitted with carbon filter ventilation to eliminate odours. The Robinson Test, a standard procedure for testing odour and taste transfer, is used by the tasters to evaluate the off-taste and off-odour and rate it on a scale from zero to four (0 indicates no perceptible off-odour/off-flavour and 4 indicates a strong off-odour/off-flavour).

Human testers are preferred because people are generally sensitive to off-taste and odours. But BillerudKorsnäs also carries out chemical analysis using gas chromatography.

The Sensory Lab holds tastings two to four times a week. In order to become a member of the tasting panel, staff must be

non-smokers and demonstrate sensitivity to low levels of off-taste for sour, sweet and salty tastes as well as bitterness in water.

Problems with off-taste and off-odour can also occur further along the supply chain after converting or printing. The Sensory Lab helps customers here too by looking for the causes of the problems and offering solutions.

“We must be sure that our customers get a safe product,” Lorin says. “And testing at the Sensory Lab is an important step in the process of making the perfect product.” ●



Torbjörn Lorin, Quality and Product Care Engineer at BillerudKorsnäs, runs the tasting tests at the Sensory Lab.

Sailing towards a sustainable

future

An exciting partnership with Tara Expeditions, a French scientific research foundation, shows that BillerudKorsnäs is serious about its commitment to driving change towards a more sustainable future.

TEXT DANNY CHAPMAN PHOTO TARA EXPEDITIONS

The French research schooner Tara has been on the move for the past 12 years. From the Arctic to the Antarctic and the Pacific to the Indian Oceans, the vessel has covered over 300,000 kilometres in a series of scientific expeditions to study the effects of climate change on the world's oceans.

Tara Expeditions' mission is to increase environmental awareness among the general public and develop a long-term advocacy plan to mobilise civil society and encourage politicians to act. The non-profit organisation has special consultative status at the United Nations, with Tara set to be "ocean

ambassador" at the forthcoming 2015 United Nations Climate Change Conference in Paris. It came to the attention of BillerudKorsnäs through its 2014 Mediterranean expedition, which was undertaken to better understand the impact of plastic pollution on oceans.

Jimmy Nyström, Tara Project Leader at BillerudKorsnäs, says: "BillerudKorsnäs really wanted to work with someone on this matter. We think that to challenge the conventional ways of doing things, we need to get involved, to really engage in understanding the challenges and from there to develop better solutions. We can't just watch



Romain Troublé, Secretary General at Tara Expeditions, says working with BillerudKorsnäs helps show that there are sustainable solutions.

what is happening; we need to be active. If we are going to talk the talk then we need to walk the walk.”

Romain Troublé, Secretary General at Tara Expeditions, says the foundation wanted to work with BillerudKorsnäs because it is the leader in its field when it comes to sustainable development. “BillerudKorsnäs has been around for about 100 years, which in itself requires a sustainable approach, and the way that it manages natural resources, the forests and water, goes beyond the best practices that we see today.”

Until now, the sustainability agenda of BillerudKorsnäs has mainly focused on minimising the negative impact of its production processes. Henrik Essén, Director of Communications and Sustainability at BillerudKorsnäs, says that this will continue but with a wider scope.

Both Essén and Nyström see working with Tara as a way for BillerudKorsnäs to continue challenging itself in this area. “We want to do better,” Essén says. “Not everything we do is sustainable but we want to improve. And we want to help drive the world towards a more sustainable future wherever we can have an impact.”

The results from Tara’s studies on the impact of plastic pollutants in oceans are alarming (see sidebar). “It’s everywhere,” Nyström says. “Tara even found plastic in the Arctic and Antarctic. Can you imagine? How the hell did it end up there?”

The amount of plastic floating around the world’s oceans is roughly twice the size of Texas. But that is just what is visible. Scientists estimate that there is some 70 percent more plastic in the ocean that they can’t see,

with invisible microplastics from washing liquids and cosmetics a particular problem.

As well as the harm caused to marine ecosystems, this is starting to pose a real problem for humans too. “All of a sudden we have started to realise that plankton feeds on algae attached to plastic, fish eat plankton and so it ends up on our plates,” Nyström says. “It is not a good situation.”

Since partnering with Tara Expeditions at the beginning of 2015, BillerudKorsnäs has supported the foundation at various events, including Unesco World Ocean Day. “If they have their friends around them it shows strength,” Nyström says. “And if they don’t get industry behind them they lack an essential ingredient.”

Industry is an important partner in finding and developing alternative solutions. At the Beyond Plastic Med event in Monaco in March, Essén presented various solutions to a room full of scientists and politicians more used to hearing about problems.

“Working with BillerudKorsnäs helps us promote the idea that there are alternatives,” Troublé says. “Sustainable development is a global issue and requires non-governmental organisations, scientists and industry to work together to find solutions.”

Essén also sees partnership as key. “We don’t have all the answers to plastic pollution,” he says. “But we have part of the solution. We all need to search out new partnerships and through working with experts in various fields we can speed up development.”

Tara hopes its research will raise public awareness of what’s happening in the world’s oceans and encourage a change in



Jimmy Nyström



Henrik Essén

behaviour. “We want to bring science to the public and help them make more informed choices,” Troublé says.

BillerudKorsnäs, meanwhile, is hopeful that the partnership will lead to new product developments. “We have a great opportunity through working with Tara to find ways to develop better functionality in our board and paper materials and packaging solutions,” Essén says.

Nyström adds: “If we can use the research material that Tara gives us to develop new products that won’t hurt the oceans that would be fantastic.” ●

How much plastic is in the world's oceans?

- Over 200 kg deposited every second
- 8 million tons deposited every year
- A mass of plastic twice the size of Texas
- 16 plastic bags for every meter of the world's coastline
- 250 billion fragments of microplastics in the Mediterranean alone

Tara in brief

- Active since 2003
- Travelled 300,000 km
- Hosted 10,000 children between 2009 and 2012
- Conducted 10 expeditions, including:
 - 2004: Greenland
 - 2005: Antarctic
 - 2005–06: South Georgia
 - 2006: Patagonia
 - 2006–08: Tara Arctic
 - 2009–13: Tara Oceans
 - 2014: Tara Mediterranean

Tara makes waves in Stockholm



*Agnès Troublé,
Tara's founder.*

Tara's visit to Stockholm this summer at the invitation of BillerudKorsnäs shows just how important the partnership is to Tara Expeditions. The visit followed an expedition to Greenland and precedes trips to London and Paris where the team will be involved in the UN's Sustainable Innovation Forum COP 21.

The schooner spent five days, from 26–30 August, moored in the middle of Stockholm, where for one day it was open to the

general public so they could learn more about its work.

Raising public awareness of the effect climate change is having on the world's oceans is one of Tara's main objectives. Between 2009 and 2012 over 10,000 children visited the vessel. "In 10 years those children will be 20 years old," says Tara's founder Agnès Troublé, aka fashion designer Agnès B. "There is a growing realisation among young people of the risks facing the planet."

During her stay, Tara also hosted an event attended by Sweden's Minister for International Development Isabella Lövin, former Prime Minister Göran Persson, and BillerudKorsnäs customers.

Jimmy Nyström, Tara Project Leader at BillerudKorsnäs, says more events are planned in Europe and Asia. "We want to show our customers what Tara is all about and why this is an important thing for us to be involved with from a global perspective." ●

Bags of choice

Automatic paper bag-making machines convert paper reel into bags. There are different machines and bags, such as bags with or without handles, with twisted or flat handles, with or without a bottom – all depending on the customer's needs.

Made to last

BillerudKorsnäs papers are made of primary fibres from Scandinavian forests. Their perfect mix of short fibres from birch and long fibres from spruce and pine guarantee strength and purity – an excellent foundation for strong carrier bags with excellent printability.

Green credentials

Many people think it is more environmentally sound to leave forests undisturbed than to make use of them. But active forest management and reforestation results in increased absorption of carbon dioxide from the atmosphere. The Swedish forestry industry is more productive than ever before, yet the standing volume of Swedish forests has increased by more than 50 percent in the past 50 years. BillerudKorsnäs mills have almost completely phased out fossil fuels in the production process and replaced them with biofuel made from forest waste. During paper production, heat is transferred to surrounding buildings.

Paper or plastic?

The IVL Swedish Environmental Research Institute has carried out life cycle assessments of a paper grocery bag made by BillerudKorsnäs and a plastic alternative. The BillerudKorsnäs grocery bag emits 49 percent less carbon dioxide than the plastic grocery bag. It takes three months for a paper bag to decompose in the environment.



With the European Parliament voting to cut the use of plastic bags by 80 percent before 2019, BillerudKorsnäs has launched two paper product lines aimed at meeting the growing demand for paper carrier bags within the retail and food trades.

The bags are made from renewable raw materials and are biodegradable so pose far less of a threat to the environment, and in particular the oceans (see the Tara story on page 9), than plastic bags.

Both product families offer outstanding strength, printability and flexibility, with the Xpression range ideal for retail carrier bags and the Basix range designed to protect food.

In fact these paper bags are so strong they can carry a person – something that BillerudKorsnäs put to the test.

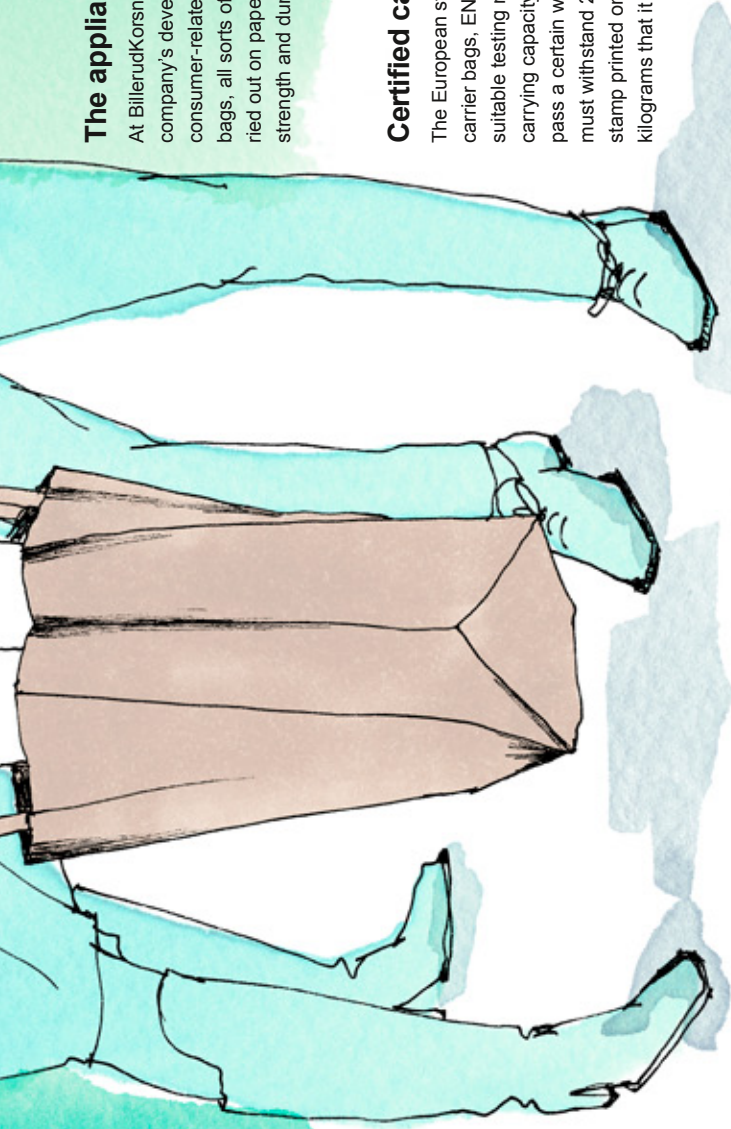
You can watch the video at:
youtu.be/55nAsMhk7WA

The appliance of science

At BillerudKorsnäs Pack Lab, the company's development centre for consumer-related packaging and carrier bags, all sorts of scientific tests are carried out on paper bags to measure their strength and durability.

Certified carrying capacity

The European standard for flexible carrier bags, EN13590:2003, sets out suitable testing methods for determining carrying capacity. For a grocery bag to pass a certain weight, 19 out of 20 bags must withstand 20 lifts. Each bag has a stamp printed on it with the number of kilograms that it can carry.



Strength in depth

*BillerudKorsnäs paper carrier bags
are so strong they can carry a person.*

ILLUSTRATION ANNE-LI KARLSSON
TEXT DANNY CHAPMAN



What is the function of packaging? It used to be about keeping goods from being damaged, but research shows that packaging design can influence our expectations of products and even affect our enjoyment of them.

TEXT MICHAEL LAWTON
PHOTO TOBIAS OHLS

Picture a packet of crisps. Now imagine that bag was soft and not made out of crinkly paper or plastic. How crisp would those crisps taste? That's the kind of research now underway into how far packaging influences our expectations of products. Does the colour or shape of a package influence our perception of how a product will taste, for example?

Thomas van Rompay of the Department of Marketing Communication and Consumer Psychology at the University of Twente in the Netherlands says that research has shown that we make abstract judgments based on physical reactions:

“For example, it seems to make a difference if you ask people to hold a warm cup of warm coffee or iced coffee before they take part in an interviewing panel.

It looks as if those who hold the warm coffee tend to judge interviewees more generously.”

He says the same principle applies to packaging, where different shaped packages evoke different emotions and perceptions in users. In one

study carried out by van Rompay, yoghurt from a square pot was perceived to have a more intense flavour than that of yoghurt contained in a round one.

“Packaging has an aesthetic function: to heighten our enjoyment of the product.”

Love *at first sight*

Not only was it the same yoghurt, but those who took part in the study didn't actually eat the yoghurt out of the pots. They were shown pictures of the pots and then given the yoghurt on small plates.

Rick Schifferstein of the Department of Industrial Design at Delft University of Technology was also involved in the study and says that the function of packaging is changing.

"Packaging was originally functional, designed to prevent goods being damaged and to preserve hygiene. Then it developed a communication function, telling consumers about the product, and differentiating one product from another on the shelf. But now it also has an aesthetic function: to heighten our enjoyment of the product – after all, the consumer buys a product and its packaging."

Research into the sensory aspects of packaging is still relatively new and only goes back 10 years or so. (As Schifferstein says, "We have several theories but they still need to be tested.") But there is quite a bit of evidence on the link between colour and flavour – both in terms of products and packaging. For example, in one study wine students used tasting notes associated with red wines (prune, chocolate, tobacco) to

Adding a bit of yellow to a can of 7-Up can make the drink seem more lemony.

describe white wine that had been dyed red.

In other experiments, wine tasted sweeter when drunk under a red light while people who were served a drink in a red cup thought it sweeter than the same drink served in a green cup. Adding a bit of yellow to a can of 7-Up can also make the drink seem more lemony.

But it is not just flavour:

research by van Rompay has shown that placing a strong image near the bottom of a box of detergent makes people think it is heavier, while an image with a strong upward movement makes people think it is less strongly perfumed than if it were pointing downwards – but only if the image is positioned near the top of the box.

Hypotheses can occasionally be disproved, however. In the case of the square yoghurt pots, for example, more intensely coloured packaging did not result in a more intense taste sensation.

And recent research by Schifferstein shows that perfume doesn't grow on you to any greater extent if it comes in a box whose colour had been shown in a previous study

to be a match. We're not any more likely to buy a perfume because it comes in a matching box.

"I'd hesitate to come out with any firm guidelines," van Rompay says. "There may be many factors that influence our decisions, such as the type of product or the type of consumer. For example, would the yoghurt pot research have had a different result if we had used more intensely flavoured yoghurt? But we do know that packaging influences perception and I want to keep exploring that."

Different shaped packages evoke different emotions and perceptions in users.

Schifferstein says companies don't take the area seriously enough. "Producers work to ensure that fruit and vegetables look as perfect as possible, but they don't think about the wrapping in which they are presented. Food must sell itself, but what is the ideal background for it?"

While producers have long taken brand identity, logos, company colours and symbols into account when making design decisions, the research suggests it may be time to go one step further. With the right packaging design, the consumer experience can be enhanced right from the outset, with positive effects for producers in terms of customer relationships and sales. ●

BOX FRESH

No matter how good the pizza it rarely travels well – even in Campania. But now a local pizzeria has come up with a box that keeps pies looking and smelling like they have come straight from the oven.

TEXT IVAN CARVALHO PHOTOS MAURIZIO CAMAGNA

Given its widespread popularity, pizza could well be Italy's best-known export. As many as five billion pizzas are consumed annually worldwide and range from the classic wood-fired Neapolitan margherita to the copycat doughy versions found in cities from Stockholm to Santiago, where locals love to experiment with exotic toppings from pineapple to whole shrimp much to the annoyance of purists. Yet in its homeland of Italy, where locals are now pushing Unesco to add Neapolitan pizza to its Intangible Cultural Heritage list alongside Viennese coffeehouse culture and traditional Mexican cuisine, a little innovation has entered into the kitchen, albeit not in terms of the recipe.

Today, a pizzeria in the province of Salerno, whose fetted buffalo mozzarella is a key ingredient of quality pizza, is making waves with its choice of packaging when hungry patrons opt for a takeaway. Taverna Pulcinella is owned by the Gallizioli family and is a popular lunch spot given its location in the town's business district. While it's not the only pizzeria in the neighbourhood, Pulcinella stands out for its innovative pizza boxes. At first glance, patrons can't discern the difference when they come in to pick up piping hot pizza margheritas or calzones made in the restaurant's artisanal oven that was built locally from brick and mortar

composed of volcanic sand from Mount Vesuvius.

It's only on closer inspection, says Alberto Gallizioli, who runs Pulcinella with his mother and siblings, that the special recipe involved in making the box reveals itself. "It's all-white, very clean looking, which gives the impression of something used for a gourmet product, not simple everyday pizza," Gallizioli says.

The key ingredient is BillerudKorsnäs Pure White liner. Composed of 100 percent virgin wood fibres, the material has found a niche in packaging for food.

Arnaldo Ferrari, Sales Manager at BillerudKorsnäs in Italy, says: "It's safe to use with food, and even though they may not notice it, the consumer comes across it in a variety of settings. Pure White can be found in the fruit boxes you see at the open-air markets in Italy's piazzas, for example. The material is also used in wine boxes as the surface allows for better visibility of printed logos on the packaging."

Gallizioli came into contact with Pure White through another business his family owns in Salerno that supplies cartonboard to companies for their various packaging needs. And though he has pizza boxes in the company's product offering that are standard, he sought something "extra" for the family's pizzeria, where each year they serve 25,000 takeaway orders.



Alberto Gallizioli

Arnaldo Ferrari



Pure White liner containerboard produced by BillerudKorsnäs helps Taverna Pulcinella provide its customers with perfect pizzas.

One of the main advantages of Pure White, which costs a few cents more than standard pizza box material, is that hot mozzarella is less likely to stick to the smooth surface and leave a mess. This, together with its all-white appearance – the product of using pure virgin fibre – gives it an aesthetic advantage over competitors. "It's an added touch that helps you to stand out from the competition," Gallizioli says. "Everyone here in our area knows how to make good, old-fashioned pizza and calzones. After all, this is where pizza was born. So you need to find an edge somewhere, and this is it. It is



The material

Taverna Pulcinella
pizza box

Material:

BillerudKorsnäs
Pure White 120 gsm

Brand owner/converter:

Taverna Pulcinella

Contact at

BillerudKorsnäs:
arnaldo.ferrari@
billerudkorsnas.com

Food safety as hot as ever

TEXT JONATHAN EWING
PHOTO KARL ALBIN

With public awareness of food product safety increasing, and in view of growing legislative and regulatory demands, BillerudKorsnäs is proactively working with food safety issues to ensure the protection of packaged food. *Smarter Packaging* magazine met with Ann Britt Nilseng, Product Safety Manager at BillerudKorsnäs, to find out more.



How does BillerudKorsnäs work with direct food contact packaging?

Food & Beverages is our biggest product area. Proper food packaging reduces food waste and is essential for an effective and safe food supply chain, from the food producer to the consumer. For us, it is important to deliver food packaging material that protects food in an effective way without affecting quality while keeping up with current legislation. We have a product safety group, with representatives from all our mills, to ensure compliancy with food contact legislation and ensure a consistent product safety offering to the market.

What are the main issues surrounding direct food contact packaging?

The overall goal is to ensure that packaging materials protect the product without affecting its properties. An important issue is increasing national legislation in, for example, South America and Asia but also within the EU. We have to keep updated and make sure that our paper and board products are compliant with relevant legislation and regulations.

Public awareness of food and food impurities is increasing. The media has raised alarms, from time to time, about specific substances. For the time being bisphenol A, which has been used in differ-



like a typical Italian café that tries to differentiate itself with finer napkins. It's the little details that customers remember."

Ferrari, meanwhile, points out that in food-conscious Italy specific rules apply to packaging. "For example, in some places around the world recycled cardboard is used in pizza boxes. While this may seem 'green' and good for the environment, the fibres used can still contain impurities such as dyes, inks and possibly glue."

Smell also has to be taken into consideration. "Freshly made pizza is usually enclosed

inside a corrugated cardboard box where odours from the material can have a detrimental effect on the smell of your pizza. Pure White is made of virgin fibres and is less inclined to give off aromas," Ferrari says.

Gallizioli is with his countryman on this. "Neapolitan pizza is characterised not only by its raised crust and the crispy yet tender consistency of its dough, but also the aromas of basil, mozzarella, and so on. You don't want anything to interfere with that, especially after you've made the pizza in the proper way, that is, the Neapolitan way!" ●

ent types of plastics such as baby bottles, is a hot topic. Most of the alarms concern substances not used in paper or board products, but as soon as one sounds we receive questions from our customers, which is why it is important to keep up to date with developments. Having efficient traceability systems in place is vital in giving the correct information to our customers.

What kind of work is BillerudKorsnäs doing in this area?

In order to deliver safe products to our customers, we must control our production process, from the raw material to the final product. This assessment involves obtaining information from our suppliers and also includes extensive process controls and final product analysis.

In general, we do these tests to ensure that our materials don't contain any constituents that can be harmful to consumer health. We also have to minimise the risk of the packaging material affecting

the packaged product. BillerudKorsnäs products are tested against legal demands for food contact materials and, dependent on end use, special tests might also be performed.

How are tests conducted and what do they involve?

Tests are performed both in-house and externally. The paper and board grades are regularly tested against food contact legislation. These tests ensure that our materials do not contain any constituents that violate legislation or that the content of our materials might somehow affect the packaged product.

At the end of the day, our goal is to earn our customers' trust that the materials we produce meet all legal, regulatory and agreed upon demands in terms of food contact. It's our responsibility to make sure that those demands are met. ●



Spätzle für alle!

*When two food lovers got together
with a packaging designer, a converter
and cartonboard from BillerudKorsnäs,
the result was a smart new way of
preparing a German delicacy.*

TEXT KARIN STRAND
PHOTO ISTOCKPHOTO & FRIZLE



Customer case: Frizle



ILLUSTRATION: MAJJA MODÉN

BillerudKorsnäs Light

BillerudKorsnäs Light is the optimal choice for dry frozen or chilled food. It has strong unbleached fibers for maximum ease of design, grip stiffness and moisture resistance. On the surface bleached fibers allow for smoothness and excellent printing results.

"The strength and the elasticity of the fibres make *BillerudKorsnäs Light* strong and flexible in a unique way," says Jörg Storneke, End User Manager at *BillerudKorsnäs*. "In *Frizle's* case, the cartonboard needed to be stable enough to stand on a shelf, yet flexible enough for squeezing."

BillerudKorsnäs Light is available in 250, 270, 290, 310 and 330 gsm.

Spätzle is a type of noodle native to Southern Germany. Made from eggs, flour, water and salt, the noodles are traditionally made by hand, but today they are also sold in supermarkets in both dried and pre-cooked forms.

Now a fresh version is available in the form of a disposable squeezer filled with raw dough. To prepare the dish, the dough is squeezed directly into boiling water ahead of serving.

The company behind it is *Frizle*, which was founded by fellow food lovers Martin Sluk and Thomas Spieler. "We both love spätzle and to us the pre-cooked products were never an option," Sluk says.

Making spätzle, however, is a messy and time-consuming business, which is where *Frizle* comes in. Spieler says: "We came up with the idea of a new convenient way of making home-made spätzle in 2011. Since we knew nothing about either the food industry or the packaging industry, we searched the internet for people who could help us."

Their search led them to Thomas Reissig at *VerDeSoft*, a packaging design and engineering company based in Nuremberg. He says the challenge was three-fold. "The packaging needed to be able to keep the dough fresh for several weeks," Reissig says. "It also needed to be convenient for the consumer to use – easy to open and easy to squeeze. And finally it needed to communicate 'organic product'."

After looking at a range of possible solutions including boxes, tubes and pouches, they decided on a foldable cartonboard pouch with six holes cut in the bottom sealed by a label. The inside of the pouch was coated with a special film to protect the dough. To eliminate the risk of leakage and to speed up the process, ultrasonic sealing was used for the sides and the top of the pouch.

The same technology was also used to seal the inside of the holes in order to prevent moisture from the dough soaking into the cartonboard. "That was particularly tricky," Reissig says.

After testing several types of cartonboard it was obvious that *BillerudKorsnäs Light* 250 gsm was the perfect choice of material. The cartonboard's long fibres provide high stability and it can stand a high degree of humidity.

Michael Spiegel at *Spiegel Verpackungen* in Höchberg, Germany, was the converter for the product. "*BillerudKorsnäs Light* is unique," he says. "Other materials with the same thickness are not as strong. And those that are as strong lack the flexibility needed."

Spiegel was involved throughout the development process as there were several challenges to address, both regarding the die-cutting process and the handling of coated material.

"There are often difficulties when you merge two different materials, in this case the cartonboard and the film," he says. "We also needed to develop a special tool in order to be able to check that all the holes were properly cut."

Frizle's disposable spätzle squeezer was a success even before it was officially launched in June 2014. In 2012, the first prototype was introduced and instantly won the German Packaging Award. In 2013, it was presented at the world's biggest organic trade show, *Biofach* in Nuremberg, and was rewarded with the audience award in the category Best New Product Convenience. That success was repeated in 2014 with the audience choosing *Frizle's* chilli-flavoured spätzle as Best New Product. The product packaging also won gold at the prestigious *DuPont Awards for Packaging Innovation* in Delaware, America. ●

The material

Frizle Frische Spätzle

Material:

BillerudKorsnäs Light 250 gsm

Brand owner:

Frizle, frizle.com

Designer: VerDeSoft GmbH,

www.verdesoft.de

Converter: Spiegel Verpackungen,

www.spiegel-verpackungen.de

Contact at BillerudKorsnäs:

jorg.storneke@billerudkorsnas.com

Mahlzeit!

Germany's answer to pasta originated in Swabia, a historic region of southwestern Germany. Today spätzle is enjoyed all over Germany, as well as in Switzerland, Austria and Hungary. The noodles are made from eggs, flour, water and salt and briefly boiled in salted water before being served with meat. Spätzle is moister and softer than Italian pasta. Instead of rolling out the dough you have to spread it over a chopping board and cut it into thin strips. There are also a range of devices for pressing the dough through holes directly into boiling water.



Stamp of quality

The Skarblacka mill is now ISO certified for food safety management – a move that will help it stay ahead of the competition.

TEXT DANNY CHAPMAN
PHOTO BRITA NORDHOLM



The number of big food scares in recent years has put food safety and hygiene at the top of many companies' agendas.

"The world is changing," says Steven Blacow, Business Segment Director for Speciality Papers at BillerudKorsnäs. "And companies are increasingly placing more demands on raw material suppliers for product safety."

Blacow, who has commercial responsibility for paper used to package medical and hygiene products, says current legislation does not adequately cover the interaction between foodstuffs and packaging materials. As a result the big food, medical and hygiene companies are encouraging their suppliers to take the initiative and prove that safety is a priority.

This is precisely what the BillerudKorsnäs mill in Skärblacka has done by attaining the International Organization for Standardisation (ISO) 22000 certificate. The mill, which is located outside Norrköping in

eastern Sweden, produces paper used in food, medical and hygiene packaging.

ISO is an independent, non-governmental organization and the world's largest developer of voluntary international standards. ISO 22000 is the organisation's food safety management certificate. It demonstrates a company's ability to control food safety hazards in order to ensure that food is safe for human consumption. Hazards can include contamination from chemicals, bacteria or materials, such as shards of glass from broken light bulbs above the manufacturing floor.

Airi Nikko, Skärblacka's Production Manager, says that the implementation of the ISO 22000 requirements has not significantly changed how things are done at the mill.

"We had to prove that we had control of all the ingredients that go into the paper and that we understood where risks of contamination in the production process were greatest," he says. "We had to show how we undertake maintenance and that we

shut down operations when maintenance is carried out. We needed hygiene zones where only operators in work overalls can enter and we needed to specify that food and drink was only permitted in specified areas.

"But we'd done most of that already. It was more a case of changing our way of thinking and documenting what we do. Of course, we had cleaning routines before, but we didn't specify what we cleaned or when. Now we have a system to record these things. We have more a systematic way of working now."

Blacow says that the ISO 22000 certification makes BillerudKorsnäs more competitive. "It is not a mandatory requirement yet, but it gives us an edge over competitors that don't have it," he says. "Soon, however, I think it will be a mandatory requirement if you want to remain a supplier to the big food and medical companies. But we are not waiting for that day to come, by getting it now we are staying ahead of the game." ●

Eye candy

The sweets on the cover of this issue of Smarter Packaging look good enough to eat. The cover is made of *BillerudKorsnäs White*, a cartonboard with a unique combination of extreme formability and outstanding print surface. *BillerudKorsnäs White* is suited for products where design, shape and graphics work together to provide the highest possible visual impact.





Match-winner

Juicy fruit

Chunky hazelnut

Lemon fizz