

# Olfaction packaging – a scent-sational new technology

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It is a well-accepted premise that the sensory experience of foods, beverages and other consumer products are primarily due to olfaction, or aroma. Yet packaging engineers, in their efforts to keep products fresh, have also created packaging that keeps those beneficial aromas *in*. Therefore, consumers often do not have the opportunity to experience the essence of the product from the shelf. Packaging designers deserve kudos for their creative and highly functional designs and exciting packaging which appeals to the senses – sight, sound, touch and taste. But the most powerful sense of all – the sense of smell – has been very under-utilised. Now, after decades of creativity and wildly successful package designs, consumer products companies are looking for new ways to connect the consumer with their brands.

## Enter olfaction packaging

As the name implies, this is packaging which appeals to the sense of smell. For the past few decades the primary interest involving aroma in packaging was to keep the unappealing smell of plastic from contaminating the taste and aroma of foods and beverages, often with the use of aroma absorbers and better materials. Now, thanks to new technologies recently available in the market, packaging is no longer just being looked at as – well, a package. It is actually being designed to help brand owners connect their products with consumers on an emotional level and to help build a stronger relationship with the brand.

## Truly smart packaging

While the term “olfaction packaging” has been broadly bandied about and applied to a number of applications from scratch-and-sniff labels to aromatised inks, the term has really been defined by a new technology which involves adding FDA-approved food grade flavours and fragrances directly

into the package material at the time of manufacturing. The resulting packaging becomes highly aromatic, offering a number of advantages. First, of course, the package smells great and instantly communicates its value to consumers from the shelf and, under some circumstances, upon opening and consumption. This technology, called Encapsulated Aroma Release®, not only adds great aroma when used with food and beverage applications, it actually improves taste. During the aroma release manufacturing process, top note flavours, those that are associ-

brain which process aroma and create a lifetime of preference. Smell is a chemical reaction not subject to an interpretive screen. So when you smell something, it bypasses the logical ‘thinking’ part of the brain and goes directly towards its emotional centre.

The brain stores that information for a lifetime and that memory, either good or bad, is instantly recalled upon smelling that aroma again. Now that old expression “You never get a second chance to make a first impression” takes on considerable importance as food and beverage processors are

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ated with flavour and freshness, are captured inside the plastic polymer at the time the packaging components are made. The plastic keeps the flavours fresh and distinctive, yet also allows these fresh flavour notes to be released into the contents. Now flavours such as fresh cut basil or fresh ground coffee, which quickly lose their volatile aromas, can be maintained in a very fresh and stable state for extended periods – usually several years. This leads to better consumer acceptance and also helps to extend shelf life of products that are pulled from the shelf due to aroma and taste degradation.

## Aroma and the brain

The sense of smell is the only sense that is processed in the Limbic mode of the brain. This is the area of the brain where memory, creativity, preference and sense of security is processed. Recent US Nobel Prize winners Linda Axel and Richard Buck explained how the nose and the brain process and store aroma and identified receptors in the nose and

realising the huge importance of aroma. Many products which taste good and even smell good after opening and airing do not always give a great first impression yet that first sniff is the one which will have the most significant and long-lasting effect on the consumer. Olfaction packaging offers the ability to give a great first impression, to mask malodours with pleasant ones and to improve mediocre aromas with great aromas. Most importantly it has the ability to connect with the consumer at the point of sale and drive purchase decisions.

## Aroma and the fight against obesity

It appears the plumping of the US has now crossed the pond: Europeans are now letting out their pants as well. Many things have been blamed for this epidemic, from fast food to cola. However, if one simply looks at eating patterns today versus 20 years ago the story takes on another dimension – the sense of smell. What does smell have to



do with overeating? Consider this: in the past families used to eat together – family-style. After a long day at work or school, when you got home you were met with the great aroma of the meal that had been simmering on the stove for hours. The house smelled great and that aroma made you hungry. Then you would sit at the dinner table, the meal was set out, aromas wafting from the plates, and everyone would eat their fill. Today, you arrive home, no meal simmering on the stove, no aroma. When it's time to eat, a meal is popped into the microwave and everyone eats in a hurry. After the meal you are still hungry so you snack on high-fat biscuits and crisps. So what is the culprit here? Consider this: everyone knows that aroma makes you hungry, but aroma also tells you that you are satiated. Therefore, when you eat a meal without the benefit of aroma, you use other cues to let you know you are satisfied, like a full stomach – which sends the message it is full long after it actually is. That is why scientists are now taking a hard look at aroma in food and packaging and how it can be used in the good fight. Aroma release technology can also help in other ways as food companies can give the perception of

butter, fat and sweetness just with aroma – less or no fat, carbs or sugar.

### **Aroma – the best sales tool**

If you watch the purchasing behaviour of consumers in stores, you would see some truly amazing things. For example, many people open products to smell them to determine if they want to purchase them. This practice occurs with many products from salad dressing to shampoo. Note that salad dressing is now tamper-evident – this is because people would open the bottle, stick their nose in to smell it, put it back on the shelf and if they liked the way it smelled, purchase the unopened one next to it. Shampoo companies who have sealed their products against tampering have been rewarded with decreased sales. You may be thinking, the answer is obvious – just use olfaction packaging. There are several olfaction packaging technologies available that can mimic the aroma of personal care items; these involve encapsulated aromas in inks and lacquers that when touched create a shear which breaks the encapsulates and releases aroma. The problem of course is that people know this is a scratch-and-sniff type technology and do not have

the perception that the aroma is entirely legitimate. The best solution of course is a method of giving people the ability to go through the same motions they are used to – such as flipping open a lid to smell the contents. There is no question that a pleasant aroma is the best tool to differentiate a product from all of the clutter on the shelf and to drive product interest at the point of sale.

### **The smell of the future**

The interest in olfaction packaging is quickly gaining momentum in food, beverage, consumer product and pharmaceuticals. However these savvy marketing companies will not be quick to kill the goose that laid the golden egg. Olfaction packaging is not being deployed haphazardly, but rather in a very careful and conscientious manner. While walking down the supermarket aisles, consumers will not be inundated with unwanted aromas coming from all directions, they will find a very controlled and well-conceived delivery of aroma intended to do a specific job – build the brand and connect with the consumer. ■

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