

RELEASE REF: ISH2020/056 (Draft)

A 'GREENER' FUTURE FOR SNACKS PACKAGING?

There are many factors to consider in seeking a more sustainable snacks packaging solution, explains John Alimi, Product Manager for bagmakers of Ishida Europe

As the saying goes, things come full circle. The first example of potato crisp packaging – or potato chip, as it was called in the USA where the first packs emerged – came in 1926 with product in sealed wax paper bags. Now, nearly 100 years later, as plastic in all its forms continues to fall out of favour with consumers, paper packaging is suddenly back in fashion.

Of course, a lot of other things have also happened to snacks during this time. From the first introductions of cheese & onion and salt & vinegar crisp varieties, we now have a myriad of different and increasingly exotic flavours. Snacks manufacturers have continued to expand and diversify their offerings and new companies with new ideas have entered the market, so that today's consumers have the choice of a huge number of different snacks products as part of multi-billion-pound global industry.

Packaging has played a key role in this growth. The introduction of new materials and their continual refinement have enabled snack products to withstand the rigours of the supply chain and reach the consumer in perfect condition. For many of the current products, multi-laminate foils and nitrogen gas flushing for the filled bags are helping to preserve quality, taste and freshness and deliver the extended shelf life we have all come to expect.

Packaging equipment has made a similarly important contribution, in particular in allowing products to be mass produced. Ishida's introduction of multihead weighing technology in the 1970s, for example, was a game changer in terms of maximising speeds and minimising product giveaway; and continual design and technical enhancements since then have created even faster and more accurate machines to enable snacks manufacturers to optimise throughput and efficiencies. Whereas in the early 1980s our weighers, combined with twin bagging systems, could achieve a top speed of 110 weighments per minute for a 25g bag of crisps, today over 270 of these crisp bags can be churned out every minute, with accuracy now to within 0.1g of the target weight.

Alongside this, bagmakers have also become increasingly sophisticated. For example, the introduction of a stripping action is keeping the sealing area free of product for reliable seals every time; our latest auto-splice function has minimised film changeover times to less than a minute. Seal testers, metal detectors and x-ray inspection systems have helped to ensure product quality and seal integrity. Case packing systems speed up end of line operations. The result has been the introduction of increasingly sophisticated and fully integrated snacks packing lines, which a company like Ishida is able to design and install completely from its own equipment portfolio.

All of this means there is a lot to consider as manufacturers seek to introduce new 'greener' forms of snacks packaging. In particular, any alternative packaging materials must be able to maintain what has already been achieved in terms of product quality and freshness. And for the equipment supplier there is the need to deliver the same high speeds, throughput and efficiencies that snacks producers are getting from their existing machines.

One of the main requirements now for snacks packaging is to improve its recyclability so that packs do not end up in landfill or become a waste problem. This has been a key driver behind monolayer materials and paper and compostable alternatives. A key consideration here, of course, is the characteristics of the product – popcorn, for example, has a high moisture content which could affect the performance of paper-based or compostable pack solutions. Monolayer films can be recycled more easily but they present challenges when using the standard heat sealing, and they also cannot reach such high packing speeds.

Equally important, recycling is not the only factor to take into account when assessing the sustainability of any packaging. Unnecessary food waste is a major environmental problem. Indeed, according to the Eco & Beyond website, food waste has at least ten times the environmental impact compared with packaging waste.

This is where the current multilayer and barrier films have a major advantage with their increased levels of protection, often combined with nitrogen gas flushing, which ensure that products remain fresh and at their best quality for a long shelf life of anything up to 12 months. This is also a vital factor in the extended supply chains of today's global markets.

Nor is the issue of the recycling of these packs being overlooked. Both manufacturers and retailers are currently exploring ways of enabling consumers more easily to recycle their used crisp packets.

New options are also being explored for multipacks. Paper may be a more appropriate alternative for these packs as they do not have to fulfil such an important product protection role. Using tape to group primary packs together rather than an additional large bag is another potential solution.

It must also be remembered that in highly competitive markets, packaging has a role to play in creating brand distinctiveness, so any new pack material also needs the flexibility to be able to cope with different pack formats, such as the growing popularity of gusset and block bottom bags.

With so many options and so many factors to take into consideration, it is vital that snacks companies work closely with both their packaging and equipment suppliers to find the most appropriate solutions that meet their sustainability as well as commercial needs.

Equipment manufacturers are already focusing on ways to more effectively handle paper in bagmakers. New box motion technology is now under development, which will allow the sealing jaw motion to operate in both vertical and horizontal planes.

This provides the flexibility to handle different materials, including new paper varieties, and at a higher performance level than existing intermittent motion bagmakers. As part of this development, technical challenges such as effectively feeding the paper onto the former are being addressed.

This ability to handle different materials is important. Consumer attitudes and market requirements may change yet again; further new materials may be developed. New machines must include an element of future proofing to be able to respond quickly to the latest requirements.

Of course, continuous development, in both products and packaging, has always been a major characteristic of the snacks industry. And working with our customers to help meet and indeed anticipate the latest changes has been at the heart of the well over 7,000 Ishida snacks packing systems that are currently in operation around the world

It is this high level of collaboration that has driven Ishida's new product development work over the years, from the first multihead weighers for crisps back in the 1980s to the latest state-of-the-art complete snacks packing systems that today provide the most cost-effective and efficient means to maximise output, protect product and preserve freshness in order to ensure the snacks reach the consumer in the best condition. And customer partnerships will continue to inform our work as we develop further advances in packaging automation to meet the needs of the future snacks factory.

Significantly, our developments to date have already brought about some important sustainability benefits. The efficiency of the systems delivers substantial energy savings and reduced film usage – with film savings of up to 20% now being achieved. Noise levels have also been improved for enhanced working conditions.

Ultimately any environmental decisions have to take into account cost as well as quality implications. Effective partnerships will therefore remain essential in addressing these new challenges in order to deliver the next generation of high technology solutions that meet the latest sustainability requirements while continuing to provide the most effective method of delivering snacks into a pack.

Ends