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## From Publisher's Desk

In December there are a number of in person exhibitions around the food industry. To start with Anuga International FoodTec to be held at Pragati Maidan and drink technology India in Gandhinagar on the same dates - 02-04 Dec 2021.

Anuga is a prestigious show for the food industry. A much bigger event happens at Cologne Messe in Germany.

Jaipur will host World Mithai and Namkeen Convention and Expo on 15-17 Dec at JECC. This is the 4th edition of the exhibition. No better place than Rajasthan to host an event on sweets and namkeen which gave us famous delectable fare.

Since the events are taking place after a gap of two years. I am sure there will be a lot of enthusiasm amongst exhibitors and visitors.

We will be present in both events to interact with both visitors and exhibitors.

Winter brings products made out of jaggery and sesame seeds to the market especially in the North India. One gets to see assortments with various combinations in Haldiram, Bikaner and other outlets.

'Fruit Spread with greatly reduced sugar content' is timely looking at the health conscious consumers. Salt and sugar both are so important to our food yet they are also instrumental in creating health related issues.

In page no 22 we have 'A Greener Future for Snack Packaging', an excellent article around sustainable food packaging. What better combination can you expect - an attractive packaging with sustainability.

There are a number of initiatives by companies to reduce their carbon footprint.

Staying in the same context the article 'Wide acceptance of foodservice disposables:

Change in consumer behaviour and conscious business organizations fuel the demand' highlights how the change is coming from both consumers and producers. When the change comes from two stakeholders it is going to sustain for a long time.

If you are a company looking for product ideas 'Innovative Start-up opportunities with banana based processed products' may interest you. The writer talks about various product ideas out of one single fruit that is available in India throughout the year.

An interview with Amit Hirani gives you a peek into the working of a food ingredient company. They are more than a seller of a product to food companies. Rather they work with companies to find solutions to challenges in food creation.

Watch out for the Jan edition with all reviews of events and what is going to be the forecast for the year 2022. We hope the situation will improve further.

Linda Brady Hawke



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# Ethnic Indian Flavours



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## IMCD India Expands its Laboratories Capabilities and Relocates its Gurgaon Office to Noida, Uttar Pradesh

To further extend its capabilities and enhance its offerings and scope across India, IMCD, a global leader in the distribution and formulation of speciality chemicals and ingredients, today announced the opening of its new office in Noida, Uttar Pradesh. The 4,500 sq. ft. office space will house 1,800 sq. ft. Coatings as well as Construction laboratories with enhanced capabilities that will cater to PAN India customers, along with Beauty & Personal Care laboratory which will provide support to the North India market. This also makes IMCD the only distributor to establish a construction laboratory in India.

"There is significant potential growth opportunity in India for the Coatings & Construction segment. As distributors, we come across many customers who reach out to us on a day-to-day basis for technical support. In a scenario like this, it gives us immense pleasure to announce that we are opening our new Coatings & Construction laboratories with state-of-the-art equipment and capabilities at our new office in Noida.", said Amit Hirani, Managing Director, IMCD India.

By setting up the Coatings & Construction laboratories, IMCD has created a platform that offers existing and potential suppliers a reliable partner to support and accelerate their business ambitions in India. The lab activities will be focused on providing comprehensive solutions and developing local guideline formulations in-line with current market trends.

"Through these labs, we will address formulation challenges, run test programmes, assist key development



*In the picture, from left to right – Manuel Baumann, Managing Director Middle East & Global Director Construction; Frank Schneider, Director Coatings & Construction IMCD Group and Member of IMCD Group Executive Committee; Saurin Shah, Regional Director Indian Sub-Continent & Middle East, Coatings & Construction; Rakhi Rediz, Director Beauty & Personal Care IMCD India; Jerome Bollard, Technical Director Coatings & Construction IMCD Group, Amit Hirani, Managing Director IMCD India, and Jignesh Mehta, Director Coatings & Construction IMCD India.*

projects, and host onsite training and workshops for our existing customers and suppliers, and for prospects across India, Bangladesh, Nepal, Sri Lanka & Middle East. These laboratories are a testament of IMCD India's commitment to support our customers and suppliers to drive innovation", continues Amit Hirani.

Frank Schneider, Business Group Director, Coatings & Construction, said "India is a fast growing and dynamic Coatings & Construction market that embraces the challenge of fast urbanization and the need to become greener, safer, and more efficient. With our strengthened presence within the region, we will be better positioned to develop future-focused formulations and solutions that drive this progress."

IMCD started its India operations in 2008 as a distribution company with focus on key large clients, covering a range of market sectors with an exceptional track record of growth. Headquartered in Mumbai, IMCD India, has offices in Vadodara, Kolkata, Chennai, and Noida, with an employee strength of 190. This new office in Noida has the capability of accommodating 30 employees and will offer technical expertise across the northern belt of India in the six

segments IMCD is currently operating in with an aim to provide solutions for our customers and partners.

### ABOUT IMCD GROUP

The IMCD Group is a global market-leader in the sales, marketing, and distribution of speciality chemicals and ingredients. Its result-driven professionals provide market-focused solutions to suppliers and customers across EMEA, Americas and Asia-Pacific, offering comprehensive product portfolios ranging from home, industrial and institutional care, beauty and personal care, food and nutrition and pharmaceuticals to lubricants and energy, coatings and construction, advanced materials, and synthesis.

The IMCD Group realised revenues of EUR 2,775 million in 2020 with nearly 3,300 employees in over 50 countries. IMCD's dedicated team of technical and commercial experts work in close partnership to tailor best-in-class solutions and provide value through expertise for around 50,000 customers and a diverse range of world class suppliers. IMCD shares are traded at Euronext, Amsterdam (IMCD).

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# Fortified Rice Kernels Testing Services

■ By Dr Saurabh Arora\*

An average Indian can consume nearly 6 kg of rice a month. India ranks second in terms of rice production all over the world. Apparently we all like rice and eat everyday with veggies and pulses. To curb the micronutrient deficiencies fortified rice is an acceptable, easy and efficient process to provide vital micronutrients to the masses. Fortification of staple food is a common practice all over the world. It is a way to carry the leading nutrients where the diet mainly consists of rice, or other foods are not available or affordable.

Apparently, fortifying rice is clinically approved by the National Institute of Nutrition. So, if you are a Fortified Rice Kernels (FRK) manufacturer it is pivotal that your rice kernels fortification business should fulfill all the regulatory requirements. It is indispensable that fortified rice kernels are tested from an authorized laboratory notified by FSSAI. Before it goes out for consumption and distribution, it is mandatory to ensure and assure that the quality of the fortified rice is not compromised and must be developed on the basis of Good Manufacturing Practices (GMP).

## FRK AS A TARGETED FOOD VEHICLE

- Fortified rice kernels are blended with normal rice at fixed proportions to achieve mandatory fortification levels set by the regulatory agencies
- Rice Fortification is a targeted food vehicle to reduce vitamin and mineral deficiencies as rice is considered to be the major staple food for more than 70 percent of the Indian population.



- Rice also constitutes a significant percentage of the grains distributed and cooked under the government social security nets through delivery channels like PDS, MDM, or ICDS.

## WHAT IS RICE FORTIFICATION?

- Rice Fortification is the practice of purposely increasing the essential micronutrients like vitamins and minerals in rice to ameliorate and enhance the nutritional quality.
- The process of milling and polishing removes natural vitamins and minerals in rice which makes it an incomplete food. This is why the method of rice kernels fortification is used to add minerals and vitamins which could fulfill the nutritional gaps.
- Notably, rice is fortified using dusting, coating or extrusion technology.
- Rice can be fortified by adding vitamin premix to the rice that sticks to the grains.
- It can also be extruded and shaped into partially pre cooked grain-like structures which appear like rice grains.
- Rice kernels can be fortified with

several micronutrients, such as iron, folic acid, Vitamin B12 and other B-complex vitamins, vitamin A and zinc.

## A GLIMPSE AT THE RECOMMENDATIONS OF WORLD HEALTH ORGANISATION (WHO)

According to WHO, rice fortification with Vitamin A, folic acid, is a way to reduce nutritional deficiency where rice is eaten as a main staple food.

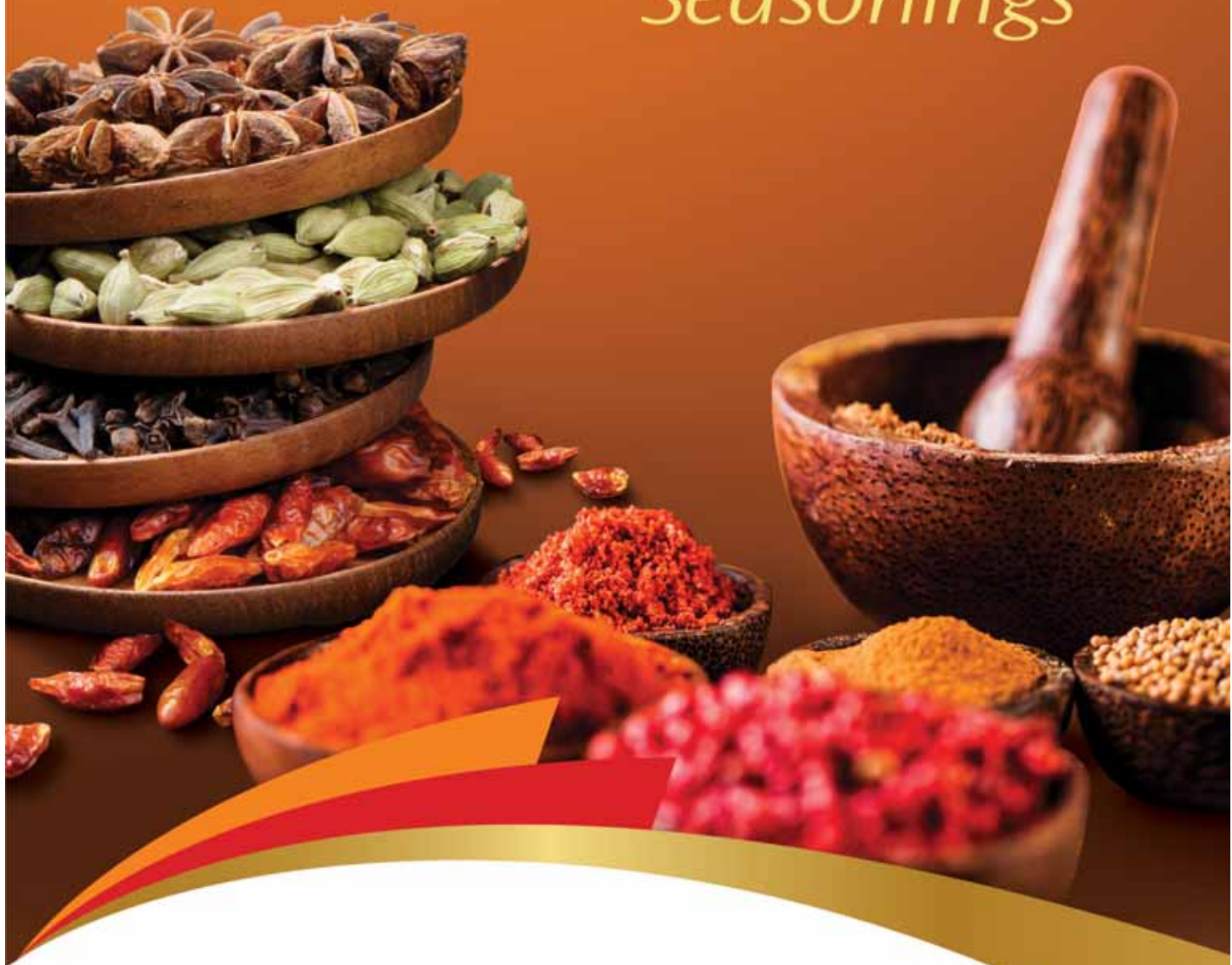
## FSSAI'S RECOMMENDATIONS

Fortified Rice Kernels (FRK) produced using extrusion technology are made with rice flour and micronutrients such as iron, folic acid, Vitamin B12 as mandatory and zinc, vitamin A, thiamine (vitamin B1), riboflavin (vitamin B2), niacin (vitamin B3), and pyridoxine (vitamin B6) as optional micronutrients.

## FSSAI'S GUIDELINES ON LICENSES FOR VARIETY OF FORTIFIED RICE KERNELS MANUFACTURED BY FBO'S

- If FBO is only producing FRK, then such FBO shall obtain FSSAI License/ Registration under category 99, sub-category 99.5.
- If FBO is blending sourced FRKs with normal rice, then the final product produced will be fortified rice and so the product category

# Ethnic Indian Seasonings



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for fortified rice is 06 and licensing will be accordingly required.

## GOOD MANUFACTURING PRACTICES (GMPs)

GMPs procedures should be followed during fortification of rice kernels to assure food wholesomeness. It is important for your business to follow the minimum sanitary and processing conditions required in a processing plant.

## WAYS TO ENHANCE QUALITY ASSURANCE AND QUALITY CONTROL

- Fortified rice should be regularly checked and inspected at all levels to ensure its quality and mitigate any risk of toxicity.
- It is essential to keep up to date record of inventory of fortificants used in the manufacturing or packing process, including the source of its procurement;
- Appropriate monitoring procedures at different stages of manufacturing or packing process.
- Random testing of fortificants and fortified food.
- Regular audit of technical equipment and processes.

## IMPACT AND SIGNIFICANCE OF FRK

- The facts show that one third of the world's population suffers from micronutrient deficiency mostly in developing countries. Rice is replaced with fortified rice to boost its nutritional profile as it is a great solution for health conscious consumers.
- It has been observed that countries where fortified rice is used leads to reduction in micronutrient deficiency health issues like anaemia and neural tube.
- Fortified rice, micronutrients like iron, folic acid, and Vitamin B12

are mixed with rice flour. Under the ministry guidelines 10 gm of FRK (fortified rice kernels) must be blended with 1 kg of regular rice. According to FSSAI norms, 1 kg of fortified rice will contain the following: iron 28 mg-42.5mg), folic acid (75- 125 microgram) and vitamin B-12(0.75-1.25 microgram)

- FSSAI had issued draft regulations on mandatory fortification of rice kernels with vitamin B12, iron and folic acid by 2024.
- Fortified rice appears like milled rice in size, shape and colour however it contains additional vitamins and minerals that retain their micronutrient content when washed and boiled in water.
- It is crucial to ensure that the fortified rice kernel matches the colour and shape of the rice kernel and it should not float differently while washing in water.
- The nutrient rich layer of rice like iron, zinc, calcium, thiamine, riboflavin, and niacin are usually removed in the milling process, polishing removes a major percentage of the nutrients in the rice.

## INSPECTION IS MANDATORY TO GET LICENSE FOR FRK

- Good manufacturing practices and food safety guidelines as per FSSAI standard guideline must be followed. The manufacturing and food safety practices must comply with all statutory and regulatory guidelines of the country/ state / region where it is manufactured.
- Every fortified rice kernels manufacturing unit will be inspected before grant of license.
- FSSAI has set standards for fortified rice and the level of fortification of iron, folic and Vitamin B12 on a per kg basis has already been defined.

## MARKET CONSIDERATIONS

- Fortified kernels offer commercial opportunities.
- Advancement in technology that offers cost effective rice fortification.
- Growing awareness related to the benefits of fortifying rice.
- Support of government and non-governmental organisations and the UN.
- Rice brand owners are also using fortification methods to offer healthier options for consumers from all sections of society.
- The brands can strengthen their market position with growing demand for fortified rice.

## FORTIFIED RICE KERNEL TESTING IN OUR LAB

We provide fortified rice kernels testing services in our labs located in pan India locations. We have the state of the art equipment and bespoke testing facilities. Our labs are approved by BIS, NABL and FSSAI. We ensure reliable testing service for FRK customers (Fortified Rice Kernel manufacturers) for testing Iron, Folic acid, and Vitamin B12 in the FRK.



\* A prolific inventor, pharmacist, scientist, technophile, and visionary entrepreneur. He has been leading the contract, testing, certification, and research business at Arbro and Auriga since 2005 with labs in seven locations. Invented, patented, and commercialized SNEC 30, a scientifically advanced curcumin supplement; Founder of Food Safety Helpline; Founder and Mentor of Lab-Training.com

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## Fruit Spreads with Greatly Reduced Sugar content

Full-bodied mouthfeel and low syneresis with the optimal pectin

People's awareness of the importance of eating a healthy diet has been increasing for years. The reduction of sugar is playing a key role in this. The development of products and foods is therefore moving towards reduced sugar varieties which still offer added value, such as valuable nutrients, wherever possible. Tools like the Nutri-Score provide a simple visualisation that aims to help consumers make their decisions. The repurchase of a 'healthier' product, however, tends to be based more on emotion and enjoyment. A fullbodied, long- lasting fruit flavor and appealing appearance are key factors in ensuring that the sensory characteristics of fruit spreads are positively received.

Classic jams and marmalades have quite a high legally prescribed sugar content of at least 55% soluble solids. The range of 'lighter' fruit spreads has also been growing for many years. These usually contain significantly less sugar and therefore have more room for fruit. In the meantime, there are now lots of products being retailed with a sugar content of approximately 40%. Many consumers find the reduced

sweetness agreeable in comparison to jams and marmalades, with the flavor of fruit spreads tending to be perceived as 'fruitier', 'lighter' or even 'more natural' as a result.

### NEW CHALLENGES IN TERMS OF TEXTURE WHEN SUGAR IS FURTHER REDUCED

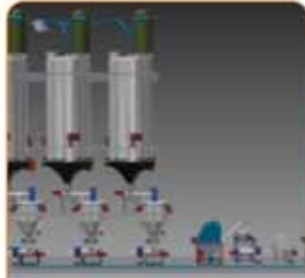
The current trend is moving even more towards products with a significantly lower sugar content,

including fruit spreads that have no added sugar at all. The balance between sweetness, acidity and fruit is very different in these products in comparison to traditional jams, marmalades and fruit spreads. Apart from the proportions of the individual ingredients and the production process, it is mainly the texture that is responsible for creating the unique taste experience. The texture characteristics of gel firmness, yield stress and viscosity are of

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key importance in controlling the perception of taste. In fruit spreads containing very little sugar, low ester amidated pectins or low ester pectins combined with an added source of calcium are used to form the gel. If sufficient gel firmness can be achieved in this way, the resulting texture is usually rather short and brittle. The large volume of liquid does not always fully bind together and syneresis then occurs.

### THE AIM IS MINIMAL SUGAR WITH MAXIMUM SWEETNESS

The use of conventional amidated pectins is not ideal for achieving the desired product properties when there is a big reduction in sugar. Perfect fruit spreads therefore require special solutions, which Herbstreith & Fox, an experienced pectin specialist with a great deal of expertise in this area, is now developing. The focus here is not only on the technological requirements, but also the creation of the impressive sensory characteristics.

Herbstreith & Fox has solved precisely this problem with its newly developed Pectin Amid CF 005-AC. The innovative functionality of this new pectin sets it apart from



conventional amidated pectins. This new development focuses on creating a particularly distinctive mouthfeel combined with minimal tendency for syneresis to occur. The gel-like, viscous, smooth texture covers the tongue and influences the taste perception accordingly. Maximum sweetness is obtained from the low amount of sugar.

The result is a consistently spreadable fruit spread that comes close in sensory terms to conventional spreads that contain more sugar.

### PECTIN WITH INNOVATIVE FUNCTIONALITY: NO ADDED CALCIUM REQUIRED

The specialised H&F pectin can be used for fruit spreads with a solids range of approx. 10 – 35% and does not require any added calcium. The calcium from the fruit is enough to produce a firmly gelled, spreadable gel with a beautiful smooth and shiny surface. A low sugar content combined with a correspondingly high fruit content makes it possible to produce fruit spreads with the coveted Nutri-Score of A.

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## JAIPUR WILL HOST 4TH WORLD MITHAI & NAMKEEN CONVENTION IN DECEMBER 2021

The Federation of Sweets and Namkeen Manufacturers (FSNM) is organising the 4th World Mithai & Namkeen Convention & Expo 2021, inviting the entire mithai and namkeen industry to the Jaipur show. The WMNC 2021 will take place in Jaipur, Rajasthan, on the 15th, 16th, and 17th of December 2021, offering a full panoramic spectrum of the said industry.

The WMNC 2021 will be presented by the well-known **“BIKAJI Group”** as its Title Partner. The event’s main goal is to boost India’s sweets and namkeen industry since it contributes to the country’s progress alongside other food and beverage industries. Mithai and namkeen have a market value of more than Rs. 1 L cr, and the overall segment is growing at a rate of 15–18 percent y-o-y.

The packaged food retail market is being revolutionised by organised packaged sweets and namkeens. With authorities increasingly tightening food labelling and general safety and hygiene standards, the demand for packaged mithai and namkeen is growing.

Gatherings like WMNC are attracting industry titans like Haldiram’s, Bikaji, Bikanervala, Balaji Wafers, Yellow Diamond,

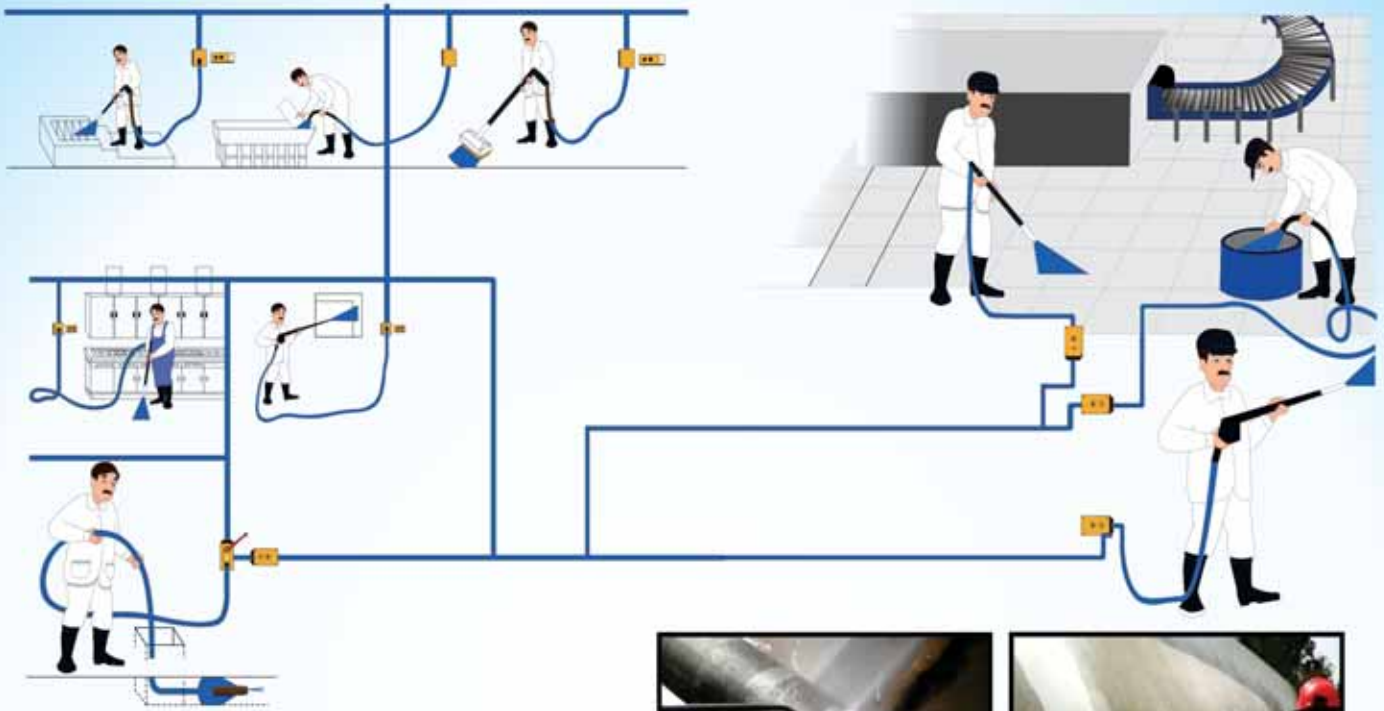
Cornitos, and many, many more from all over the country, and these players are growing at a rate of 25% on average. It is expected that the industry will attract \$20 billion in investment by 2024.

Along with manufacturers, WMNC will feature stalwarts from allied sectors such as packaging and raw material companies, food processing machinery, bakery and confectionery, ingredient suppliers, dairy technology and logistics, IT solutions, automation, packaging machinery, and materials, to name a few.

WMNC will have over 200 stalls and expects over 8000 visitors and delegates from all over India and overseas.

The event will be held for three days due to high demand from attendees and the event’s growing popularity, in order to give visitors enough time to meet exhibitors. As a topic for discussion on the second day, a seminar titled “Taste the Future of the Indian Mithai & Namkeen Industry” will be held.

We would like to invite all namkeen, snack, and mithai manufacturers, as well as those in the allied industry, to actively participate in and support this incremental show.



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### Lower sodium, higher flavor perfect for Plant-Based Bites

The consumer appetite for exciting, nutritious, full-flavored snacks put the spotlight on better-for-you plant-based options. After extensive research and lab tests, Salt of the Earth introduces its all-natural solution for making lentils bites tastier, using less sodium.

Salt of the Earth conducted virtual research of social media, culinary blogs, and retailers that indicates flexitarian and vegan Millennials increasingly are seeking new plant-based snacks that are better for you as well as have high protein content, vitamins, and minerals. After analyzing the properties of different legumes, they zeroed in on lentils.

"We developed an application for lentil snack bites that can be chilled, frozen, or dried," explains Rakefet

Rosenblatt, food technologist for Salt of the Earth.

"Lentils have lots of protein and a high overall nutritional value, plus they blend well with other vegetables. We noticed that plant-based products are getting increasing attention on the market, yet most of the snacks are from broccoli, cauliflower, or sweet potatoes, which lack the same level of nutritional value. Our new application concept can attract a wider audience, including kids, thanks to its great taste and reduced sodium."

"Parents with busy lifestyles are looking for ready-to eat nutritious treats that can be part of a meal or an on-the-go snack for the whole family," adds Tali Feingold, Business Unit Director of Salt of the Earth. "My kids won't eat lentils but these delicious treats made with Mediterranean

Umami Bold have become a part of our regular routine."

"This Mediterranean Umami Bold formulation will allow food companies to easily overcome lentils' natural blandness and provide a savory treat," adds Rosenblatt. "You can add Mediterranean Umami Bold to the wet mixture as part of the other ingredients. It completely dissolves, naturally boosts flavors, all while lowering sodium levels by a third."

Mediterranean Umami Bold is a cleanlabel, plant-based solution for flavor enhancement and sodium reduction. It is a versatile ingredient with multiple uses, including boosting savory flavors and reducing sodium up to 45% in a variety of products. It can also be used to reduce the amounts of certain expensive ingredients, such as flavorings and spice blends.



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## 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 flavors. 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 maximizing speeds and minimizing product giveaway; and continual design and technical enhancements since then have created even faster and more accurate machines to enable snacks manufacturers

to optimize 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 minimized 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.

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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 maximize 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.



## Fast Curing Methyl Methacrylate (MMA) Flooring Solution By Silikal



Frozen Food Flooring.

Methyl Methacrylate flooring are slowly getting recognised by commercial and industrial construction projects because of their advantages. Given the right conditions, MMA flooring will cure or achieves its mechanical strength 100% in 60 minutes of installation of the last layer. Floors that require a renovation but cannot shut down, MMA floors are the solution during these busy times, this means that the surface can be subjected to full operational use under an extremely tight turnaround because of its speed application and curing time, chemical resistant, anti-skid properties, monolithic and hygienic floor properties.

The seamless floor coating can usually be applied, or damaged areas repaired, without any interruption to refrigeration – at temperatures down to -25 °C. In around an hour, the new Silikal coating in a cold store would have already cured and reached full strength. So, the whole process can be completed in an evening or at the weekend to avoid any disruption to normal working hours. The same applies for repairing damaged areas of a surface with the successful Silikal R 17 repair mortar system. These are key advantages for cold stores in particular,

which result in an enormous saving on time and money.

But that's not all. Silikal floor has a lot to offer in terms of aesthetics. There are huge range of colours to choose from, enabling you to create an attractive working environment.

MMA floors are not only applied on new concrete but also on old concrete, tiles, metal, wood and on natural stone. This versatility saves hours in surface preparation, particularly in maintenance shutdown scenarios, as it can be applied directly on to the existing floor finish.

MMA floors have extremely low volatile organic compound (VOC) and is non-toxic. MMA has a distinct odour during application which is harmless and eliminated with the right ventilation system in place.

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- Can be cured at temperatures as low as minus 25°C
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- Abrasion, wear, and pressure resistant up to over 100 N/mm<sup>2</sup>.
- UV protected floor – good for outdoor.
- Cost-effective.
- Easy to rework.
- Proven worldwide for over 60 years on many millions of square meters.

Silikal® GmbH, founded in 1951 and based in Mainhausen near Frankfurt has been developing and manufacturing reactive resins for flooring and building protection based on methyl methacrylate, epoxy and polyurethane for more than 60 years. The extensive range includes products for concrete repairs and maintenance, for industrial and commercial flooring, for waterproofing of buildings, road markings and tactile guidance systems for example. Marketing takes place via the company's own sales team, representatives, specialist installers from the trade, construction and building protection companies as well as intermediaries such as engineers, planners and architects. Silikal now operates in more than 60 countries worldwide and is represented in Germany and Europe as well as on every continent in the world. Silikal® India started its operations in 2017 in Bangalore, Karnataka, focused only on MMA flooring.

### For More Information

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# Online Moisture Measurement on Cereal, Grains & Powders

For food products produced by the grain industries, moisture is a crucial issue throughout the manufacturing process. Too little or too much moisture at different stages of production can affect the quality of the final product and the optimisation of production costs. By using microwave technology, it is possible to monitor moisture online, allowing trend analysis and early intervention when necessary. The Berthold moisture systems can measure grain moisture when harvested, throughout processing, and before storage and sale. This significantly reduces production costs and improves product quality. For example, as a rule the moisture content of couscous must not exceed 13.5%.

## EARLY RECOGNITION OF FLUCTUATIONS

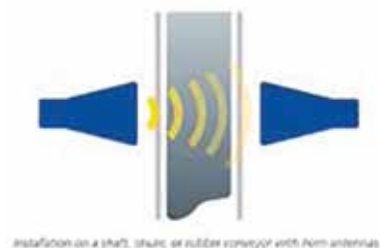
The MicroPolar system provides real-time, continuous measurement of moisture or dry matter content in a wide range of products. The measurement is performed directly

on the main stream. This microwave measurement is nonintrusive; no sensor comes into contact with the product to be measured, which reduces maintenance. The measurement is not influenced by the color, viscosity or inhomogeneity of the product. Moreover, the measurement is carried out on the entire product. The MicroPolar system is easy to install. The processing unit has a large display and a user-friendly interface. Calibration can also be performed on site.

## MEASURING PRINCIPLE AND FUNCTION

The installation possibilities are manifold, common installation situations are e.g. on pipes, belt conveyor, shafts / chutes. Possible applications are on all types of cereals, grains and powder products including maize, semolina and couscous, as well as soya, rice, coffee, starch, nuts, rice, etc.

The microwaves pass through the product to be measured, causing



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the free water molecules, which have excellent dielectric properties, to rotate. This rotation causes a slowing down (phase shift) and a decrease in amplitude (attenuation) of the microwaves, resulting in a very accurate measurement of the water content. Thanks to the multifrequency technique used by Berthold, measurements are highly reliable and stable and are not affected by reflectance or resonance. The integrated reference signal ensures excellent compensation for the influence of environmental parameters. As the device generates very low power microwaves (in the range of 0.1 mW), the measured product is not subject to any temperature increase or change. The radio licenses of the system have been approved by FCC, IC and ETSI.



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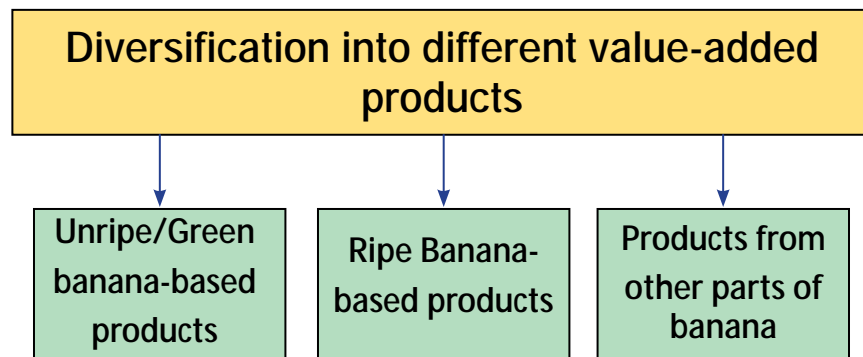
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# Innovative Start-up Opportunities with Banana Based Processed Products

■ \*D Amelia Keran, P. Suresh Kumar,  
KN Shiva and S Uma



starch content for its functional properties, green banana flour could be considered as an ideal supplement in the products such as pasta, bread, spaghetti, cookies, noodles and baby foods. Dessert banana flour could be used in variety of industrial applications with its lower thermal characteristics and thus requires lesser cooking time than the other flour.

## GREEN BANANA BASED PRODUCTS

### Minimally processed banana slices

With the emergence of quick service restaurants (QSR), convenient foods are catching up. Minimal processing of Monthan slices pre-treated chemicals like potassium metabisulphite (KMS, 0.5%) and citric acid (0.5%) enhanced the shelf life upto 10 days when packed in HDPE bags at refrigeration ( $7\pm 1^{\circ}\text{C}$ ) temperature. popular in the market. Similarly, the banana slices, with its loads of nutrients, plays a major role in the diet of south Indian population.



Surface treatment of unripe banana slices (Nendran/ Popoulu) with hydrocolloids can render less oil absorption during deep fat frying and reduce oil percentage by 25%. HDPE pack with nitrogen flush can maintain the chips nutritive and sensory attribute up to 30 days.

### LOW- FAT BANANA CHIPS



### GREEN BANANA FLOUR

Utilization of green banana and plantain for its flour is of interest as a possible resource to make healthy functional products with its higher resistant starch and low glycemic index. By simple dehydration of raw banana slices in hot air oven and grinding it can yield green banana flour with high resistant

### RAW BANANA PICKLE

Pickling of steamed raw banana dices with suitable spices, can give it a shelf life of about 6 months. Addition of vinegar and vegetable oil can improve its sensory acceptability.

### BANANA STARCH



The large quantity of green cull bananas has the potential of being used to improve banana economics and eliminate the large environmental problem Raw banana

is a potential resource for industrial processing and starch production. Banana starch with very low GI can be stored in HDPE packs up to 6 months.

## NUTRACEUTICAL AND FUNCTIONAL HEALTH MIXES

The potential of exploiting green banana flour for weaning food has tremendous potential. A combination of malted maize and soybean, roasted groundnut and cooking banana can be recommendable weaning food for infants between the ages of 6 months and 2 years. Other products like health mix drink and soup mix paves way to market shelves for its health benefits.

## BAKERY PRODUCTS AND EXTRUDED PRODUCTS



Green Banana flour with high starch content (available and resistant) can be blended with other cereal flours and can be used as a potential ingredient for bakery products containing slowly digestible carbohydrates. Supplementation of banana flour to wheat flour aided in increasing resistant starch and phenolic content of wheat breads. It is a preferable replacement of all-purpose flour (up to 40%) in preparation of bread, cookies, biscuits and cold extruded products (pasta and noodles).



## RIPE BANANA BASED PRODUCTS

### DEHYDRATED RIPE BANANA

Dehydrated ripe Banana popularly known as banana figs are high in demand in the market. Varieties with high TSS (23 °Brix) (Udhayam and Karpuravalli) are suitable for making figs. The economic viability of the end product, quality and certification is essential for successful venture in export market.



In proper packaging condition the products can be stored up to 1 month.

### BASIL SEED SUSPENDED BANANA RTS

Enzymatic hydrolysis can yield clarified banana juice. Commercially banana RTS with basil seed suspension is least available. The TSS, acidity, optical density and shelf life of banana RTS beverage increases with increase in sugar levels. The complication in suspending basil seeds is that, due to density differences with beverage, it is a common tendency for seeds to either settle at the bottom or to float at the top. With the use of suitable stabilizing agents, basil seed can be uniformly distributed. With proper pasteurization and

### RIPE BANANA POWDER

The natural matrices of ripe banana powder contain a high amount of carbohydrates and bioactive compounds with potential prebiotic beneficial effects on human health and can be used as functional ingredient in food preparation. With



conventional driers, ripe banana pulp takes long time to dry, due to their dense physical structure and high sugar content. The technology developed by ICAR- NRCB, makes the banana pulp more porous, that will facilitate quicker drying.

## WINE AND VINEGAR



Aerobic fermentation of clarified banana juice with *Saccharomyces cerevisiae* can yield banana wine with high phenol content. Further, anaerobic fermentation of banana wine with *Acetobacter aceti* can produce banana vinegar. With the increase in global demand for fruit vinegar, banana vinegar has good market potential.

## UTILIZATION OF OTHER PARTS OF BANANA

### LOW SODIUM BANANA STEM AND INFLORESCENCE PICKLE

The banana male bud and central core stem are least utilized after harvesting the bunches. It is converted into a high value-added product by making flower (thokku) and stem pickles. The process of flower pickle involves removal of pistil, blanching, grinding and addition of spices and oil. The steps

## VALUE ADDED PRODUCTS FROM OTHER PARTS OF BANANA PLANT

Inflorescence



Peel



Stem



of preparing central core stem pickle comprises extraction of stem from pseudostem, slicing and cutting into small pieces, removal of fibre, blanching, and addition of spices.

banana stem candy with a shelf life of 30 days in HDPE packs.

### LOW CALORIE BANANA STEM RTS BEVERAGE

In indigenous systems of medicine, pseudostem juice is a well-known remedy for urinary disorders, stomach troubles like diarrhoea, dysentery and flatulence. It can be prepared by grinding sliced central stem and filtering it with muslin cloth. Sucralose recorded low starch hydrolysis when compared with other treatments. Juices prepared with the composition of Sucralose is therefore could be an alternative for people with special caloric requirements and it is suggested for diabetic patients. Addition of ginger extract can improve its acceptability, it can be stored safely up to 3 months without any spoilage. Cookies from the central stem powder could add dietary fibre content in the biscuits and cookies.



### PRODUCTS FROM BANANA PEEL



Pickling technique had also been adopted for processing banana peel for its edible usage. Explorations revealed that, there is a set of antioxidant activity in banana peel. Preparation of banana powder and incorporating them indifferent bakery and extruded products have provided promising output.

### BANANA CENTRAL CORE STEM CANDY



Pre-treatment in sugar solution of sliced tender central core stem and further drying can produce sweet

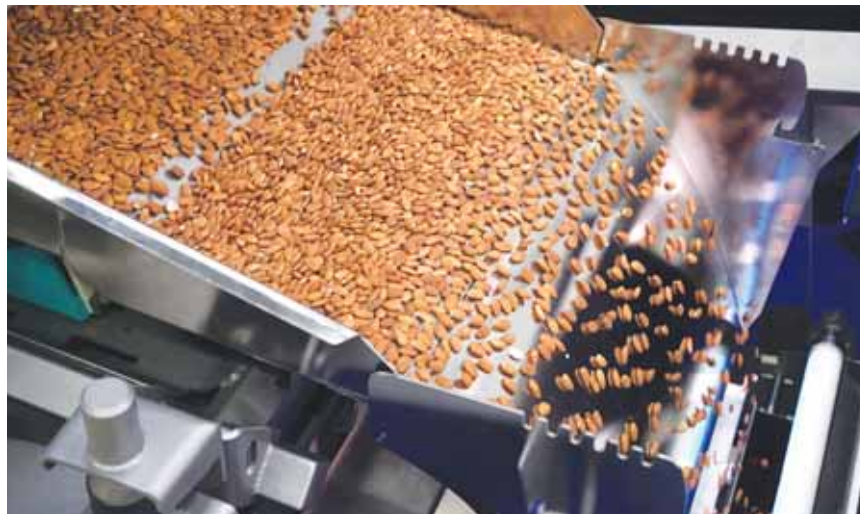
\* ICAR- National Research Center for Banana, Thogamali road, Tiruchirappalli

## How Nut Processors can Gain from the Latest Sorting Technologies

It's not easy for nut processors to ensure food safety or meet customers' product specifications. For one thing, foreign material and shell fragments can get into the processing line's product stream. For another, nuts can be damaged by both by external and internal defects which can be almost impossible to detect. There's also the risk posed by allergens if one type of nut should unintentionally get mixed with another. Yet all of these threats have to be eliminated to protect processors and retailers from product recalls and reputational damage.

If this makes nut processing sound like Russian Roulette, the good news is that it's possible to remove all the bullets! This is achievable thanks to the extraordinary effectiveness of state-of-the-art optical sorting machines. What's more, today's sorting solutions deliver a multitude of other benefits: they grade to specification, minimize rejects, increase removal efficiency, reduce or eliminate the need for manual intervention, help solve the problem of labor (scarcity, cost, effectiveness), reduce downtime, and provide data about the product being sorted. Through all of these capabilities, sorters improve sustainability by cutting food waste while enhancing yields and profits.

Here we take a brief look at how sorters achieve all this. We spotlight their capabilities with five popular types of nut to see the sorting solutions offered by industry-leader TOMRA Food. By looking first at almond processing, we introduce and explain the technologies applicable throughout the various



stages of almond processing. We will also examine how sorters operate effectively on lines handling, macadamia, walnuts, hazelnuts, and peanuts.

### THE PROCESS FOR ALMONDS, DIFFERENT SORTERS FOR DIFFERENT TASKS

As harvested nuts are hulled, shelled, then processed, different sorting solutions are needed to perform various tasks. Sorting machines initially take care of fairly basic requirements, but as the nuts progress along the line towards storage or packaging, the sorters become more sophisticated and specialized in their focus. The process for almonds is a good example of this.

The first challenge with almonds, the removal of foreign material, hull and shell, is one the huller-sheller typically deal with. A highly detailed inspection isn't needed at this initial stage, but it is desirable to sort out the bigger pieces of unwanted material, hull, sticks and shells, and to do

this at a fast rate. The machine best suited to this task is the TOMRA 3C, a free-fall machine capable of sorting more than 20 tons of nuts per hour. This eliminates foreign materials, including hull, stone, shell, stick, and all the most common defects, with an incredible efficiency of 99.5%+ purity.

A second check for foreign materials and kernels is made when the almonds reach the processor - and the more that's sorted out at this early stage, the less there will be to do later. This next task is handled by TOMRA's Ixus Bulk sorter, a belt machine capable of unrivaled throughput. The Ixus employs the latest x-ray and imaging technology to detect and eject materials such as stones, glass, rocks, and high-density plastics.

The relentless search for impurities continues in the next step, with the sorter now looking for smaller and less dense foreign materials. Plastics might still be found at this stage, but most unwanted objects are now likely to be natural materials



such as shell, hull, peewee inshell, and small sticks, or allergens arising from crosscontaminated products - pistachio in an almond line, for example. The machine that performs this task is the TOMRA 5C, a premium optical sorter explicitly developed for nuts and dried fruit, recently launched as the successor to the TOMRA Nimbus. The TOMRA 5C is typically equipped at this point in almond processing with a single laser scanner plus a single BSI+ scanner uniquely capable of 'seeing' the biometric characteristics of materials on the line, using two different technologies to ensure removal of all types of foreign material.

### **CHECKING BIOMETRIC CHARACTERISTICS**

For the third sorting stage at the almond processor, the TOMRA 5C is used again - and now that it's equipped with two Biometric Signature Identification (BSI+) scanners, this machine shows its remarkable ability to find hard-to-see and nearly invisible defects: insect damage, pin-hole, gummy, mold, brown spot, and shrivel. Though nuts with these defects are removed, they will be recovered for sale for other uses. Most defects at this stage are inedible and will be used in oils for cosmetics.

It is possible to find all these defects because TOMRA's unique BSI+ technology scans materials with both near-infrared (NIR) and

visible spectrum wavelengths. This instantly compares the biometric characteristics of objects to features stored in a database to determine whether they should be accepted or rejected. This technology can also detect and reject other critical nut defects such as rancidity, decay, mold, allergens, and water and oil content.

### **DELICATE MACADAMIA NUTS**

Global demand for macadamia nuts has created a need to process them in ever-greater quantities, while consumers are simultaneously raising their expectations of product quality and food safety.

Macadamias have many varieties and sizes, with a very thick shell that generally sees a ratio of 67% shell versus 33% kernel. This means that processors face an extremely high defect level after cracking - something the TOMRA 3C is very well suited to solve because it separates shell from kernel with a low giveaway. The second position for the TOMRA 3C will be to remove major discolorations, rotten, mouldy kernel as well as remainder shell.

### **PECANS, ONE OF THE MOST COMPLICATED NUTS TO PROCESS**

Pecans are one of the fastest growing nuts, with huge demand for quality kernel. Like walnuts, pecans are sold in so many different sizes, grades, and product types that they are one of the most complicated of all nuts

to process. Booming global demand for pecans creates a need to process them in ever-greater quantities, while consumers are simultaneously raising their expectations of product quality and food safety. This is seen in product specifications getting stricter: not so long ago, it was acceptable for a ton of nuts to contain up to 20 pieces of shell, but today many wholesalers insist on there being no more than five pieces per ton - or in some cases, fewer than one.

On the first run through the TOMRA 5C, when the machine is equipped with double-sided BSI+ scanners, a search is made for foreign materials, allergens, shell pieces, and shells within the Pecan. On the second run, using a high-resolution double-sided laser and a single BSI+ scanner, the sorter detects and ejects hard-to-find product defects such as rancidity, mold, septa, shriveled nuts, and dark (red or black) nuts. Then in the final step before distribution, the pecans are inspected by the TOMRA 5B for grading by shape and perhaps also by color. Prior to packing, processors aiming for the highest quality kernel uses the IXUS Bulk X-Ray machine to do a final inspection for foreign material such as stone, wood, plastics - before being packed.

### **WALNUTS ALSO SUBJECTED TO MULTIPLE CHECKS**

Walnuts are sold in so many different sizes, grades, and product types that they are the most complicated of all nuts to process. Booming global demand for walnuts creates a need to process them in ever-greater quantities, while consumers are simultaneously raising their expectations of product quality and food safety. This is seen in product specifications getting stricter: not so long ago it was acceptable for a ton

of nuts to contain up to 20 pieces of shell, but today many wholesalers insist on there being no more than five pieces per ton - or in some cases, fewer than one.

In the first stage, before cracking, the huller will put the walnuts through the Ixus Bulk x-ray sorter to remove foreign materials which could damage the shelling equipment. After sizing and shelling, the nuts are passed through a TOMRA 3C optical sorter at high capacity to remove shell fragments. Then the TOMRA 5C (or its predecessor, the Nimbus) works its magic no fewer than three times, before a final inspection is made by the TOMRA 5B. TOMRA's ability to handle the product gently is critical in walnuts because they are quite fragile and breakage will reduce their value.

### HAZELNUTS ARE NOT MUCH EASIER

With hazelnuts, ensuring food safety and product quality is equally complicated. These nuts are usually hand-picked but processors will still need to remove many of the same defects such as stones and other foreign material. Hazelnuts will be run through a TOMRA 3C before cracking, to remove unwanted items such as sticks, stones, and loose kernels, then re-sorted to separate the loose kernels from the sticks and stones. Another TOMRA 3C is used after cracking, focused mainly on the shell pieces generated by the



cracking process.

After this, there is the more intensive part of hazelnut sorting. The TOMRA 5C (or its predecessor, the Nimbus) is used at least twice, with some processors choosing to send the ejected product to another TOMRA 5C to recover what's saleable at a lower grade. Both these inspections are made with double-sided BSI+ scanners (and perhaps also a high-resolution laser), to find and remove product imperfections such as mold, shrivel, oblong, and cimiciato insect damage. Only by using TOMRA's unique Biometric Signature Identification technology is it possible to find such damage.

### FINDING THE DEADLY TOXIN HIDDEN IN PEANUTS

Of all the threats faced by nut processors, potentially the most challenging can be hidden inside peanuts. This is aflatoxin, a naturally occurring mycotoxin which it's important to remove. Produced by certain *Aspergillus* molds (fungi) on plants such as corn and grain, or more commonly in the ground, this toxin usually develops in the field - and because it tends to occur in 'hot spots,' test samples don't always find it. But TOMRA's Detox Machine does.

This special design, incorporated in the TOMRA Nimbus machine, makes it possible to identify the extremely low intensity of light reflected by

aflatoxin producing mold in peanuts and remove them.

This extraordinary capability has the power to save peanut processors and retailers from the kind of product recalls that bring brands to their knees.

### WITH SORTERS, IT'S 'MISSION ACCOMPLISHED'

Although TOMRA's sorting technologies are sophisticated, all are designed to be easy to use. What's more, these machines are remotely controllable and easily networked, and some even possess self-learning abilities to refine their sorting accuracy continually. As a result, false rejection rates are low, yields are high, and nut processors are empowered to conquer even the most daunting of operational challenges.



# Kraft Heinz Company - Environmental Social Governance (ESG) Report



The Kraft Heinz Company released its third Environmental Social Governance (ESG) Report along with its 2025 Diversity, Inclusion, and Belonging (DI&B) Aspirations.

The 2021 ESG Report highlights progress the company has delivered against these Aspirations and across its three ESG pillars: Healthy Living & Community Support, Environmental Stewardship, and Responsible Sourcing.

## SOME HIGHLIGHTS ON THE COMPANY'S PROGRESS IN 2020 AND 2021 INCLUDE:

- **Stepping Up to Support Communities:** Kraft Heinz provided more than \$40 million in financial and product donations for COVID-19 relief globally. In the UK, Heinz partnered with Magic Breakfast to secure 12 million free

breakfasts for school children. The partnership equated to one breakfast per day, five days per week over eight weeks, for children who would usually benefit from access to breakfast club programs that were cancelled as a result of schools closing.

- **Circular Packaging Design:** Through 2020, 83% of the Company's global packaging is now recyclable, reusable, and compostable against its goal of 100% of its packaging meeting this standard by 2025. The Company will roll out its first circular Tomato Ketchup PET bottle to the European market in 2022.
- **A Culture of Animal Welfare:** In 2020, Kraft Heinz made good on its commitment to laying hen welfare, achieving the Company's

goal to exclusively purchase free-range eggs in Europe. The Company is on track to follow through on its target to source 100% cage-free eggs or better globally by 2025.

- **2025 DI&B Aspirations:** Kraft Heinz is committed to achieving gender parity within management positions globally by 2025, which means increasing the representation of women in management from 37% to 50%. The Company is also aiming to reach demographic parity in the countries where Kraft Heinz operates by 2025. For example, in the US, where more than half its employees live and work, the Company aspires for people of color to represent 30% of the salaried employee population by 2025. Currently, this population is 24%.



**Food Marketing and Technology Magazine, India had an opportunity to interview Amit Hirani, Managing Director, IMCD India. He talks about the investments in technical labs and technical resources so as to provide superior products to suit consumers taste. The company is committed to innovative products to meet food producers needs.**

**1 KUSHALCHAND SONS WAS ACQUIRED BY IMCD IN 2015. IT HAS BEEN SIX YEARS. WHAT ARE YOUR THOUGHTS ON THE GROWTH OF IMCD INDIA SO FAR?**

It has been six and a half years since Kushalchand Sons was acquired by IMCD. Ever since then, the Food & Nutrition business and other business segments have grown multifold due to both organic and inorganic growth. IMCD made three other major acquisitions in Pharma, Coatings and Construction and Advanced Materials segment. We have also added many new Principals in key focus areas to strengthen fields where we were either not present or were trying to establish a foothold. We have made major investments in our technical laboratories and in technical resources to provide solutions and innovative concepts to our customers.

**2 COULD YOU PLEASE ENLIGHTEN THE READERS ABOUT IMCD INCLUDING ITS VALUES AND MISSION?**

IMCD's purpose is to create opportunities that go beyond the possible.

Our values comprise of: Freedom to act, entrepreneurial, integrity and trust, partnership, financial discipline.

Our mission and purpose are to be committed to

distribute safe, reliable, superior quality products to customers, consistently on-time, duly ensuring fulfilment of statutory & regulatory requirements, exceeding customer expectations with continuous improvement.

**3 THE APPLICATION OF YOUR PRODUCTS IS IN DIFFERENT BUSINESS SECTORS. HOW MUCH REVENUE COMES FROM THE FOOD AND NUTRITION INDUSTRY IN RATIO TERMS?**

Out of the 6 business segments where we are currently present in India, Food and Nutrition is the 3rd largest and contributes around 20% to India's total revenue.

**4 THERE IS A TREND OF BRINGING REGIONAL CUISINE FOR MASS CONSUMPTION. HOW CHALLENGING IS IT TO SUITE THE PALATE OF DIVERSE PEOPLE IN A COUNTRY SUCH AS INDIA?**

India is a country of diverse ethnicity and culture, where the taste changes every 100 kms. It is extremely challenging for companies to launch products that suit the taste of every individual. The market is continuously evolving and accordingly the manufacturers too are continuously innovating. Manufacturers are trying many things, one of them being bringing regional cuisines to the consumers.



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#### **Our other Product Line are -**

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- JELLY DEPOSITOR
- JAM AND KETCHUP PLANT
- BOTTLE FILLING MACHINE
- CUP FILLING AND SEALING LINE
- MODIFIED ATMOSPHERE PACKAGING (MAP) TRAY SEALER
- COMPLETE CARBONATED AND NON-CARBONATED BEVERAGE PLANT
- COOLING AND WARMING TUNNEL FOR BEVERAGE INDUSTRY

## 5 HOW DO YOU VIEW THE FOOD START-UPS AND THEIR ABILITY TO TAKE RISK WITH TASTE AND TEXTURE?

Taste and texture are very strong attributes that start-ups look into when it comes to launching their products. For instance, start-ups in plant-based meat analogues are exploring vegan meat products which have texture like real meat. They have benchmarks like that of US based "Beyond Meat" or "Impossible Burger". Similar is the case with start-ups in confectionery, bakery, or other F&B categories. An eggless cake manufacturer will always want to have ingredients or formulations that will be as good as egg-based cake or industry benchmark for cake in terms of texture and taste.

However, a wrong choice of Flavour(s) or Texturant(s) can have a negative impact both on the product and the image of the start-up company. Hence, to mitigate risks associated with formulation, prototype, packaging, logistics etc., most start-ups appoint distribution and formulation specialists to take care of the risks where they do not have any expertise.

## 6 HOW IMPORTANT IS SUSTAINABLE AND TECHNICAL EXPERTISE TO IMCD WHILE ADVISING AND SUPPORTING YOUR CUSTOMERS?

Both sustainable and technical expertise are very close to IMCD group, and we want to become THE Go-To distributor for sustainable products. Recently, our IMCD Brazil team in collaboration with a key supplier, was tasked with approving an ingredient that would produce an appealing gummy with a 100% pectin base. With their expertise and innovation, the team was able to supervise trials and provide technical and commercial support, creating a gummy that was 100% pectin-based and had the desired sensory profile. Similarly in India, one of our customers wanted to develop vegan based meat analogues and reached out to us for concept development and ingredients. We introduced them to special binders such as methyl cellulose that helps the burger patty to stay intact with good freeze-thaw as well as heat stability. The customer has now commercialised this ingredient with us and his product – the vegan meat analogues has now started selling in the market.





We take pride in the technical expertise and knowledge we possess locally and within the group across all the sectors we operate. Our expertise and knowledge help us to provide sound recommendations and solutions to our esteemed customers.

## 7 WHAT ARE YOUR THOUGHTS ON PLANT-BASED INGREDIENTS?

Plant based ingredients have a great future in the processed food industry especially in the meat and nutrition industry. Consumers these days are extremely health conscious and are better aware of sustainability. They are looking for healthier and tastier solutions from the food industry. Success of companies like "Impossible Foods" "Beyond Meat" etc. clearly show that the consumers are choosing healthier options of plant-based meats to conventional meat. In view of the global demand, many plant-based ingredient companies are increasing their production capacities.

## 8 WHAT WAS THE EXTENT OF DISRUPTION IN YOUR BUSINESS DUE TO COVID? WHAT DID YOU DO DIFFERENTLY RIGHT FROM MOTIVATING STAFF TO MANAGING BUSINESS?

Our staff means everything to us, they are our largest and best asset, and we take extreme pride in them. During Covid, we extended all possible support to our staff by shifting to a work from home routine and equipping them to work more seamlessly by providing extensive IT support. Their physical and mental wellbeing were taken

care off through multiple webinars and panel discussions. We also extended sanitised transport facilities throughout the lockdowns for their safe commute between their home and office. We provided our employees and their families with Covid linked insurance in addition to the regular medical insurance. Moreover, we sponsored both doses of covid vaccination for all our employees and their spouses. Fun events like Housie, Power-breaks, Talent@home, etc. were organised to keep our employee's morale high and boost their motivation levels.

At IMCD India, we did not see any major disruption in business last year and this year has been a phenomenal year so far despite disruptions due to Covid. As for managing the business, our team carried out exhaustive discussions with our clients on their future requirements, basis which we could procure volumes from our principals despite global supply challenges. Proper inventory management and good relations with our principals and customers has resulted in an amazing year for us so far.

## 9 YOUR MESSAGE TO FOOD START-UPS.

India is still a virgin market in terms of processed food. There is ample and more scope for start-up companies. My message to start-up companies would be – Be creative and innovative with focus on health, nutrition, hygiene & convenience, and I am pretty sure that success will be within your reach.

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- **Superior cleaning outcome in shortest time**
- **Reduce water consumption by 60%**
- **Reduce cleaning time by 50%**
- **Reduce bacterial attack**
- **Easy to operate & low maintenance**

Our products are diversified into Mobile Units, Centralized Machines and Silikal Floor Coating.

Washboy Industrial High-Pressure Cleaners are heavy-duty machines which have a work capacity of more than 8 to 10 hours.

Washboy has a team of well-trained technicians, skilled to repair machine parts rapidly and perfectly while being cost effective. We have upskilled the Customer's Maintenance Team to do preventive maintenance, emergency repair of machines at our warehouse or at customer's site by providing quality service with original spare parts promptly and expeditiously.

We hand-pick and design our pumps with never stop increasing capacity for Industrial applications. All our models are fitted with additional Motor Protection System which switches off the incoming power in case of power fluctuation or phase failure. Our movable units are



easy-to-handle. Centralized units are best for industrial applications.

The High-Pressure Water Cleaner by Washboy® is the best possible choice for the Food Processing Industry; it provides effective cleaning and hygienic conditions but also saves 60% of water when compared to conventional cleaning. Washboy machines are used in areas where hygiene is primarily important. This industrial cleaning equipment removes adhesive dirt and controls the bacterial growth of the surfaces.

### WASHBOY MACHINES ARE AVAILABLE IN TWO SYSTEMS: -

**1** Washboy Trolley Units- The trolley machines come with 170 bar for commercial application and 200 bar for industrial application with adjustable pressure outlined for all type of cleaning applications. Consuming 6KW power with a pump capacity of 900 volume/LPH, can work for longer hours with reduced electrical power and water consumption. Having a compact size with 3-Phase connection, imported triple ceramic plunger pumps are accompanied directly by coupled motor and advanced nozzles which are held to convey pulsation free high-pressure water with inlet temperature 50°C for effectual cleaning.

**2** Washboy Centralized Units- The centralized machine with adjustable pressure 10-200 bar working pressure is outlined for all type

of cleaning applications for industrial use. The centralized unit is custom made to customer requirement with Time Delay Stop, Leak Detection System and bigger pump for longer duration of working. A single machine consumes 6KW power with a pump capacity of 900 volume/LPH is easy to use with low maintenance and cleans rapidly. A 3-Phase connection stationary unit, can be lodged in an equipment room. The system can provide innumerable drop stations with plug in and plug out high pressure hose at divergent areas of cleaning. Even if the user has no contact with the machine, it would suspend in 30 seconds when not in use and starts again by pressing the high-pressure gun.

We are delighted to announce that we have done 100 installations all over India. As we are concerned about customer's perspective, satisfaction, and feedbacks, we upgrade our products once in five years. We have recently done advancements in our products for customers' satisfaction.

We acknowledge our commitment to a customer-first attitude which renders long-term success.

### For More Information Contact

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# Innovative and cost effective methods to harness the power of rural India

■ By Varun Raheja\*

It is a known fact that wastage of fruits and vegetables is high in India due to lack of infrastructure for processing and storage. One company that has been working to reduce wastage and increase farmer's income is Raheja Solar Food Processing Pvt Ltd based in Indore. With the use of scientific methods they are able to help farmers. With the help of advanced Solar Dryers the farmers are able to dehydrate their produce and sell at higher price.

## WHAT IS THE PHILOSOPHY BEHIND YOUR VENTURE OF HELPING RURAL POPULATION?

Agrarian country like India and the existing socio-economic structure make farmers the backbone of the society. Almost all food items consumed by us are produced by them. Hence, the whole population depends upon them. However, in spite their hard work their living conditions are poor. Vagaries of

weather due to climate change has further pushed them to the edges.

In India, we experience either abundance in season or lack in off season. The main problem of this imbalance is the low shelf life of food products. In absence of cold chain transport of perishable fruits and vegetables becomes impossible without it getting damaged or spoiled. For example, Victoria queen pineapple, a special variety from Manipur are sold at the rates of Rs. 200-250 per piece in metropolitan cities, but the farmers are getting a meagre amount of Rs. 5-10 per piece. If it is to be processed the produce will fetch double- triple rates.

## WHAT ARE THE TECHNOLOGIES THAT YOU USE TO PROCESS VEGETABLES?

Solar dryers provides controlled and optimized heat to the product which considerably increases its quality.

As compared to naturally drying in the sun, the dryer protects the fresh product from UV radiation, dust, dirt, insects and pollution and preserves its nutrients value.

In addition to this, the compact size of the dryer enables small farmers to be a part of the movement. The self-sufficient dryer can be installed anywhere as per convenience. It has been installed on a variety of site sizes ranging from 750 Sq feet residential terrace to about 10 acres of farm.

Further, our dryers can be customized as per requirement and budget. We have installed dryers of sizes starting from 5 kg capacity for domestic purposes to 1000 kg for industrial purposes.

The farmers can preserve their excess produce or daily leftovers without losing its natural colour,



**USING OUR OWN DEVELOPED SOLAR DRYER, MICRO FOOD PROCESSING UNITES ARE CREATED WITH SOLAR DRYER AND HELP THEM CONNECT TO THE MACRO ECONOMY AND REACH THEIR PRODUCTS TO DIFFERENT PARTS OF THE COUNTRY.**



taste, fragrance, and nutrients. The solar-dried products processed in the solar dryer can be further stored for more than a year without using any chemical or preservative. This allows farmers to have more market control, as and when the rates are high, they can sell their produce.

The solar dryers have been modified and upgraded as per the feedback of our hundreds of users in the past few years.

#### **SOME OF THE SALIENT FEATURES OF OUR SOLAR DRYER:**

1. DIY & Foldable design
2. No electricity required
3. Portable and Modular design
4. Light-weight
5. Designed with FSSAI norms
6. Work 300 days a year

#### **HOW DO YOU FIND MARKET FOR THEM?**

There is a sustainable model for processing and marketing products whereby every stakeholder has something in it for them. Many a times marketing becomes a big huddle to keep such business proposition going. Solar dryers are

sold to them and in return EASTERN HIMALAYAS company have a definite buy back policy. It is marketed in India and abroad through various channels including social media

#### **IN WHICH REGIONS ARE YOU WORKING?**

Solar dryers are successfully installed in almost all states of India, but majorly is operational in central India; where we have our head office. Besides, our products stretch across the north-eastern state's where the need is higher. Owing to poor connectivity with the rest of India, most of the precious and chemical free produce of the north east get wasted. Using fold-able solar dryers, penetrating to interior areas are impacting livelihoods positively.

Using our own developed solar dryer, micro food processing unites are created with solar dryer and help them connect to the macro economy and reach their products to different parts of the country.

#### **WHAT IS THE IMPACT ON THE RURAL POPULATION?**

Indian farmers incur Rs 92,651 Crore per year in post-harvest losses. Ironically, acc. to the high-

level Dalwai committee report, an investment of Rs 89,375 Crore—a figure marginally lower than the annual post-harvest losses is required to develop the formal chain post-harvest. The wastage of huge amounts of produce leads to high market prices of produce. Therefore the preservation of these produce and making it available throughout the year is the way forward.

For example, at the end of 2019, the prices of onions were very high. If onions when available at Rs. 1-2 per kilo gram just a month or two before, were dehydrated and sold in the market during the lean harvest season, it would benefit both the farmer and the consumer.

Currently, they are supporting more than 10,000 farmers using our model. As Raheja says 'we are exponentially growing every year in terms of supporting number of farmers and marketing their solar dried products'. Our aim is to support at least 2,00,000 small and marginal farmers in next 5 years using our affordable technology and market support.

**\* Author is Director Raheja Solar Foods**

## Wide Acceptance of Foodservice Disposables: Change in Consumer Behaviour and Conscious Business Organizations Fuel the Demand



As the trends such as eco-friendly lifestyle and doorstep food delivery pick up the pace in the COVID-19-affected world, there is an increase in demand for foodservice disposables across the globe. As a result, the production of environmental-friendly disposables is on the rise.

Companies have invested a huge amount of money in research to find the best alternative to plastic that is durable, portable, and can hold food items safely. All these factors along with surge in the global travel industry are expected to propel the global foodservice disposables market.

This growth in the market is subjected to key trends such as the rise in the number of green shops and stores, awareness regarding zero-waste footprint, conscious consumerism, rise in R&D, and demand for single-use plastics.

### HERE ARE A FEW KEY TRENDS THAT RULE THE FOODSERVICE DISPOSABLES MARKET TODAY:

Increase in popularity and credibility of green shops and stores:

Usually, low-quality and non-disposable containers or packaging materials are used when one goes shopping for groceries each time. Buying packaged items means

supporting recurrent use of plastic bags and containers.

As a solution to this, several stores have launched an eco-friendly concept of grocery shopping. Customers can bring their own clean, sustainable containers or disposables each time they come to shop. These stores sell sustainable bags, disposables, or sustainable bottles that can be used frequently and for a longer period.

Recently, MORRISONS, a store chain, has announced its plans to introduce six zero-waste stores to promote the recycling of packaging materials and unsold food items by

2025. If the trial proves to be a success, the store chain will launch the project in all its stores across the UK. This trial is conducted with the help of Nestlé to recycle soft plastics in the UK rather than processing them in other countries. There are many small stores such as The Blue Pantry of Wellington and Take No Wrap of Yeovil which offer minimal-waste services.

#### CHANGE IN CONSUMERISM:

Conscious consumerism is on the rise across the world. Modern buyers make sustainable and environment-friendly purchase decisions, be it building a house, buying a car, shopping for daily use items, dining in restaurants, or ordering food from apps. Market leaders have grasped this trend and changes are made in the business offerings accordingly. For example, Dunnet Bay Distillers have introduced refills and closed-loop packaging for their popular spirits to decrease carbon impact.

As per the claims made by Dunnet Bay Distillers, adopting environmentally friendly packaging would help it decrease storage and transportation costs in both the UK and the US markets. The new packaging assures that the pouches will be transformed into plastic pellets and upcycled into new products, instead of ending up in a landfill.

The market also offers tools that motivate users to make sustainable choices. Platforms such as Giki help to live sustainably and reduce carbon footprint. Giki is a social enterprise based in the UK. It is formed with a mission to help people live sustainable life. The enterprise works actively with community groups, small businesses, and global companies to help cut carbon footprints.

#### AN ALTERNATIVE TO SINGLE-USE PLASTIC:

Notpla, a London-based start-up has developed an alternative to single-use plastic, Ooho, which can be used in food and drink packaging. It is a 100% biodegradable container created from a particular seaweed that grows up to three meters per day. This bottle alternative is edible, which means, no waste, no bins, and no recycling either. The production of Ooho needs nine times less energy compared to traditional plastic water bottles.

The foodservice disposables market will have to change as per the time to be relevant and eco-friendly. As research activities are conducted to develop eco-friendly packaging materials, the market will adopt new innovations to create quality, sustainable, and safe containers.

\*Courtesy Allied Market Research

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# Cheese Powder Market Size Worth \$2.15 Billion By 2028 | CAGR: 7.2%

The global cheese powder market size is expected to reach USD 2.15 billion by 2028 according to a new study by Polaris Market Research. The report **“Cheese Powder Market Share, Size, Trends, Industry Analysis Report, By Product (Cheddar, Parmesan, Blue, Romano, Swiss, Others); By Application; By Region; Segment Forecast, 2021 – 2028”** gives a detailed insight into current market dynamics and provides analysis on future market growth.



Increasing application of the product in the food & beverage industry, along with the growing consumer demand for healthy food products, are some of the key factors that drive the market's growth. The rapid growth in the economy of many countries has resulted in the popularity of packaged and processed food products.

The powder is known to give distinct flavor and taste for many food items, and hence they find applications in varieties of snacks, bakery items, pizza, and beverages. Cheese also has many health benefits such as strong immunity, prevention of osteoporosis, improved dental health, reducing the risk of heart diseases and cancer because of proteins, vitamins (Vitamin D, Vitamin K12), calcium, and conjugated linoleic acid.

The improved economic situation and improved spending power among consumers in emerging economies such as India and China will be a significant boost for the growth of the global market. Consumers prefer packaged foods such as bakery & confectionery

products, ready-to-eat meals, and snacks due to the changing lifestyle and hectic schedule.

#### HAVE QUESTIONS? REQUEST A SAMPLE COPY :

<https://www.polarismarketresearch.com/industry-analysis/cheese-powder-market/request-for-sample>

Increased preference for authentic flavors and natural ingredients has resulted in various types of cheese in the industry. Parmesan, Cheddar, Swiss, Blue Cheese, and Romano are some of the types of products. Parmesan is a more popular cheese powder due to its shelf life and increased usage in high-quality products. The product has numerous applications, including bakery and confectionery, sauces, dips and condiments, dressings, sweet and savory snacks, and ready meals.

The emergence of the COVID-19 pandemic is expected to augment the growth of the powder industry due to the favorable consumer preference for packaged and processed food items. Packaged foods can be stored for a longer period due to their greater shelf time, making it convenient for

consumers to store food items for a longer period during the lockdown imposed in many parts of the world.

Market participants such as Kerry Group PLC, Land O'Lakes, Inc., Kraft Heinz Company, Archer Daniels Midland (Wild Flavors), Lactosan A/S, All American Foods, Kanegrade Limited, Commercial Creamery Company, Aarkay Food Products Ltd., and Dairiconcepts, L.P., are some of the key players operating in the global cheese powder industry.

**Polaris Market Research has segmented the cheese powder market report on the basis of type, application, and region:**

#### Cheese Powder, Product Outlook (Revenue – USD Million, 2016 – 2028)

- Cheddar
- Parmesan
- Blue
- Romano
- Swiss
- Others

#### CHEESE POWDER, APPLICATION OUTLOOK (REVENUE – USD MILLION, 2016 – 2028)

- Snacks
- Bakery & Confectionery
- Dips/ Dressings/ Dry Mixes/ Sauces
- Flavors
- Ready to Eat
- Other

**Courtesy: Polaris Market Research**



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