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— INTRO

All about staying ahead of the food curve



Foodtech Insider, a periodical publication dedicated to showcasing the latest trends, advancements, and breakthroughs in the dynamic food technology sector. As a platform tailored for industry professionals, investors, and enthusiasts, we provide valuable insights into the ever-evolving landscape of the Food & Beverage industry, both locally in India and on a global scale.

Embark on a journey through the realm of food technology with Foodtech Insider, your go-to online destination for all things foodtech. Discover innovations and transformative breakthroughs that are shaping the future of the F&B industry. Whether you are a seasoned industry expert, an investor seeking valuable insights, or simply passionate about the evolution of food, our platform is designed to keep you informed and inspired with the latest industry trends.



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Cocoa Chaos: Price Surge Sours Chocolate Industry

The increase in cocoa prices, which have risen by approximately 65% since the start of November 2023 compared to the previous year. This increase has been attributed to a global cocoa shortage, with the El Niño phenomenon i.e. climate change-induced drought affecting crops in West Africa, which produces around 80% of the world's cocoa output. The International Cocoa Organization predicts a decline of almost 11% in global cocoa supply during the 2023/2024 season. Additionally, there are deep-rooted structural issues, including chronic underinvestment in cocoa farms, which exacerbate the supply shortage.

The rising cocoa prices have had a significant impact on the chocolate industry. Companies have been passing on the increased costs to consumers in the form of price hikes, with Hershey, Mars, and Lindt increasing prices by 12-15% in Europe and 15% in the United States. These price increases come on top of hefty increases in 2023. Some manufacturers have also been reducing the size of their products or innovating with recipes that call for less cocoa to offset the higher costs.

The challenges faced by cocoa farmers, who often struggle to make a living income and lack the means to reinvest in their land. This translates to lower yields, further contributing to the global cocoa shortage. The recent explosion in cocoa prices has not significantly benefited growers, as many are producing fewer tonnes due to the hit to harvests, and they receive only a small percentage of the final price. Geopolitical events have also played a role in the increase in cocoa prices. Higher freight rates due to Houthi terrorist attacks in the Red Sea and export disruptions in Ecuador, the world's third-largest cocoa exporter, have supported cocoa prices.





Case Study

Nestlé's Sugary Surprise: Spoonful of Sugar, Pinches of Controversy

Nestle, the renowned global consumer goods company, has once again found itself embroiled in a controversy, this time concerning the sugar content in its baby food products sold in India. A study conducted by the Swiss investigative organization Public Eye revealed that Nestlé's Cerelac and Nido baby products in India contain nearly 3 grams of sugar per serving

Nestle, the global consumer goods giant, has faced repeated controversies in India, with the latest involving the sugar content in its baby food products. A study by Public Eye revealed that Nestlé's Cerelac and Nido baby products in India contain nearly 3 grams of sugar per serving. Despite Nestle India's efforts to reduce sugar content by up to 30% over the past five years, concerns persist over the sugar levels in its infant cereals.

Added sugar content of the same Cerelac wheat product in different countries

Country	Grammes per portion
Thailand	6.0 g
Ethiopia	5.2 g
South Africa	4.0 g
Pakistan	2.7 g
India	2.2 g
Bangladesh	1.6 g
United Kingdom	0.0 g
Germany	0.0 g

Source: Public Eye and IBFAN (2024) • Analysis of the nutritional information appearing on the products, or, when the added sugar content is not declared, results of laboratory analyses.

Sugar Discrepancies in Nestlé’s Baby Food Products

Reports from Public Eye and the International Baby Food Action Network (IBFAN) shed light on the disparities in sugar content among Nestlé’s baby food products sold in different regions. Notably, while sugar was present in Cerelac products in developing countries like India & other South Asian countries, sugar-free options were available in European markets. This discrepancy raised concerns about Nestlé’s approach to sugar levels in products marketed in low-income versus high-income countries.

Previous Controversies and Responses

Nestle has a history of controversies in India, including the 2015 Maggi noodles ban due to excess lead and MSG. The ban, triggered by labelling discrepancies and confirmed test results, led to a nationwide recall and regulatory actions by FSSAI. Nestle faced criticism for not meeting health standards in a significant portion of its food and beverage range, prompting pledges to improve nutrition profiles by reducing sodium and sugar content by 14-15% over seven years.



Nestlé's Commitment to Quality and Nutrition

Despite facing challenges, Nestle India maintains its commitment to product quality and nutritional standards. The company emphasizes using high-quality ingredients and regularly reviews its portfolio to innovate and reduce added sugars without compromising on safety or taste. Nestlé's ongoing efforts to align with health criteria and update its product lineup reflect a dedication to meeting consumer expectations and regulatory standards.

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— Dutching Drama: Unveiling the Alkalization Secrets of Cocoa



The quality of cocoa powder is crucial for the taste and texture of the final product. Alkalization, a process where cocoa beans are treated with an alkalizing agent to adjust pH levels, plays a significant role in enhancing flavor, color, and solubility. While this method can improve cocoa powder, it may also have downsides like reducing nutritional value and altering chemical properties. Initially introduced by Coenraad Johannes van Houten in the 19th century, alkalization, also known as Dutching, is now a common practice in cocoa powder production.

Manufacturers use alkali solutions like baking soda, potassium carbonate, sodium hydroxide to reduce bitterness and enhance solubility. However, this process can lead to the loss of flavor compounds and the formation of brown pigmentation, resulting in a lighter color and less intense chocolate flavor.

The level of alkalization can be adjusted to achieve desired cocoa properties, influenced by the type and concentration of the alkali solution used. During alkalization, cocoa beans are processed into chocolate liquor by cleaning, roasting, and grinding. This liquor is then mixed with an alkalizing agent, stirred to reach the desired pH, pressed to remove cocoa butter, and dried to produce cocoa powder. Alkalization reduces acidity, making cocoa powder less bitter and mellow, while also enhancing its colour for baking applications. Alkalized cocoa powder is more soluble in liquids, aiding in recipe mixing. Despite its benefits, alkalization can reduce cocoa powder's nutritional value, especially antioxidants, and alter its chemical properties affecting interactions with other ingredients. Chocolate manufacturers should carefully weigh the advantages and disadvantages of alkalized cocoa powder to choose the most suitable option for their specific requirements.

Microbial Hydrocolloids Redefining Food Consistency



Microbial hydrocolloids are a vital component of the food industry, derived from the fermentation of microorganisms. These hydrocolloids possess unique rheological properties, making them suitable for various food applications. They are used as functional ingredients in food formulation for increasing food consistency, improving gelling effect, and controlling the microstructure, texture, flavor, and shelf life. This article discusses three types of microbial polysaccharides-based hydrocolloids: Xanthan gum, Gellan gum, and Pullulan gum.

Xanthan gum (INS 415), produced by the bacterium *Xanthomonas campestris*, has a cellulosic backbone of β -glucose units substituted with a trisaccharide side chain. The side chain consists of two mannose units separated by a glucuronic acid, with approximately half the terminal mannose units linked to a pyruvate group. Xanthan gum's molecular structure allows it to form highly viscous solutions and exhibit weak gel-like properties and excellent thermal stability, making it suitable for use in watery food products.

Gellan gum (INS 418), produced by the microorganism *Sphingomonas elodea*, and is a fermentation polysaccharide with a molecular structure based on repeating glucose, rhamnose, and glucuronic acid units. In its native form, gellan gum contains acetate and glycerate substituents, while low-acyl gellan gum lacks these substituents. Upon cooling, gellan solutions can form double helices that aggregate into weak gel structures, which can be strengthened by the presence of appropriate cations like K^+ , Na^+ , Ca^{++} , Mg^{++} . However, acyl substituents in native gellan interfere with aggregation, resulting in weaker gels. Due to the ability to form microgels and films, it is used for binding to the nutrient surface and as a coating material.

Pullulan gum (INS 1204), produced by many species of the fungus *Aureobasidium*, is a water-soluble homopolysaccharide of glucose with (1→4) and (1→6)-linked α -D-glucopyranosyl residues. The ratio of (1→4) to (1→6) linkages is 2:1, and pullulan is built up of maltotriose units linked by (1→6) with smaller amounts of maltotetraose units. The presence of (1→6) glycosidic linkages increases Pullulan's flexibility and solubility in water compared to other linear polysaccharides like amylose starch. Pullulan easily dissolves in cold or hot water to form a stable, viscous solution that does not gel and is stable over a wide range of pH and heat. Pullulan gum film is clear, colorless, odorless, non-toxic, hard, very oil resistant, and edible and can be used for food packaging. Its important applications as adhesive ingredients for the pharmaceutical capsule and cosmetics industry, food quality improvers and thickeners, a water-soluble packaging material to prevent oxidation, low-calorie food raw materials for staple foods and sweets.

In conclusion, microbial polysaccharides-based hydrocolloids offer unique rheological properties that make them ideal for various food applications. Xanthan gum forms highly viscous solutions and exhibits weak gel-like properties, making it suitable for watery food products. Gellan gum is widely used as a thickener and stabilizer in the food industry, while pullulan has excellent film formation, fiber formation, and gas barrier properties, making it widely used in medical, food, and light industry, chemical and petroleum fields. Further research is needed to explore the potential applications of these hydrocolloids in different fields.

Elevate the Experience

Innovative Recipes for Foodtech Enthusiasts

Mocha Protein Milk Shake

Ingredient	Amount %	Procedure
Skimmed Milk	86.22	<ul style="list-style-type: none">• Weigh all the ingredients.• Make a slurry of cocoa powder, instant coffee powder and small portion of milk in main tank and heat to 100°C for 10 minutes.• Dry blend gum, sugar, salt, Disodium phosphate and add the blend to main tank and mix for 10-15 mins under high agitation.• Then add WPC-80, Vanilla extract and mix for 30 minutes under high agitation.
WPC-80	6	
Sugar	6	
Cocoa Powder	0.8	
Instant Coffee Powder	0.35	
Xanthan Gum	0.4	
Disodium phosphate	0.1	
Vanilla extract	0.1	
Salt	0.03	
TOTAL	100	



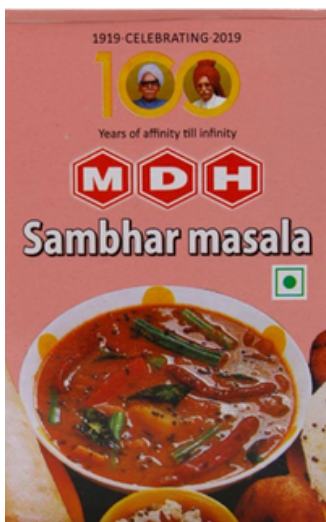
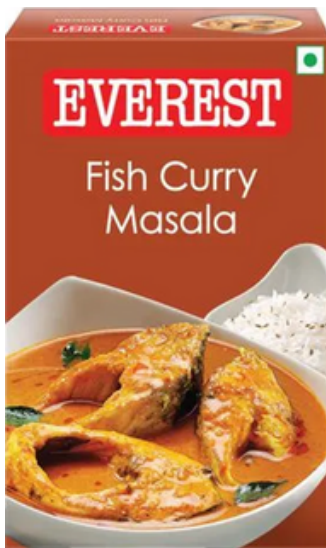
News to be concered

The Dark Side of Spices: MDH and Everest Banned for Ethylene Oxide

Hong Kong and Singapore have taken action against popular Indian spice brands MDH Pvt. and Everest Food Products Pvt. after the detection of the carcinogenic pesticide ethylene oxide in several spice mixes. The Centre for Food Safety of The Government of the Hong Kong Special Administrative Region found ethylene oxide in three spice mixes from MDH Group and Everest's Fish Curry Masala. The International Agency for Research on Cancer classifies ethylene oxide as a Group 1 carcinogen, posing serious health risks, including an elevated risk of breast cancer.

Singapore took similar action against Everest, alleging the presence of ethylene oxide at levels surpassing permissible limits. In response to the findings, both countries have taken action to protect public health, recalling the affected products from their shelves.

The Centre for Food Safety in Hong Kong collected samples of four products, including MDH's Curry Powder, Mixed Masala Powder, Sambhar Masala, and Everest Fish Curry Masala, under its routine food surveillance programme.



The test results showed the presence of ethylene oxide, which is unsuitable for human consumption. The regulatory body has instructed vendors to stop selling the affected products and remove them from their shelves. Ethylene oxide is a pesticide that is not authorized for use in food, but it can be used to fumigate agricultural products to prevent microbial contamination. Although there is no immediate risk to consumption of food contaminated with low levels of ethylene oxide, long-term exposure may lead to health issues. Therefore, exposure to this substance should be minimized as much as possible.

Consumers who have purchased the implicated products are advised not to consume them and seek medical advice if they have concerns about their health. The two Indian companies have faced recalls in international markets due to food safety issues before. In June last year, the US Food and Drugs Authority asked Everest Food Products to recall its two products, sambhar masala, Garam Masala, and Maggi Masala, that had tested positive for Salmonella. In September 2019, at least three lots of MDH's sambhar masala were withdrawn from the US after the FDA tested them and found them to be positive for salmonella.

In summary, Hong Kong and Singapore's ban on MDH Pvt. and Everest Food Products Pvt. is a significant move to protect public health from the harmful effects of ethylene oxide. It is crucial for regulatory bodies, manufacturers, and consumers to work together to ensure food safety and prevent health risks associated with pesticide residues in food.



Factors to Consider When Establishing a Distillery Unit in India's Dynamic Alcohol Market

The article discusses the scope for starting a new distillery in India, highlighting the growing demand for alcoholic beverages and spirits in the country. The Indian Alcoholic Beverages Market is projected to achieve a value of USD 76.5 billion by 2032, with a compound annual growth rate (CAGR) of 7.74%. The Indian vodka and gin market, a subset of the broader distillery industry, was valued at USD 1,450.6 million in 2022 and is anticipated to experience a notable CAGR of 9.34% from 2023 to 2029, ultimately reaching a valuation of USD 2,478.06 million.



Angelika Nelson

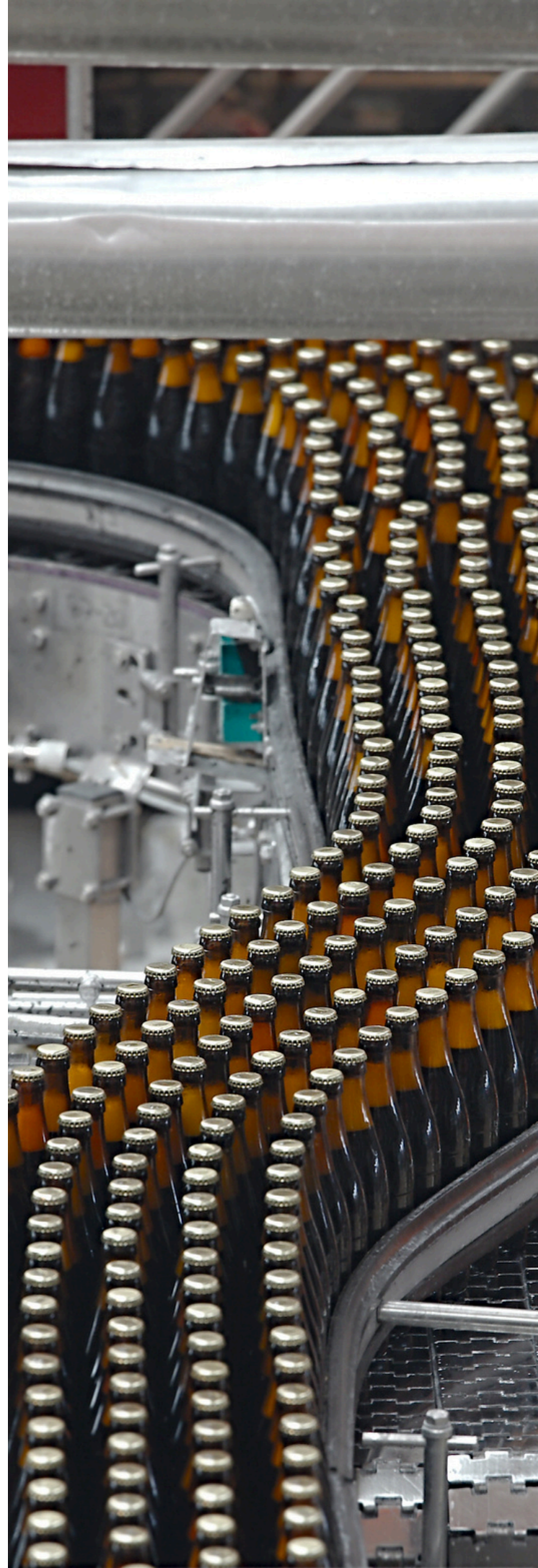
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The distillery sector plays a crucial role in the Indian economy, contributing to 2% of the country's nominal GDP and providing employment opportunities for over 800,000 individuals, both directly and indirectly.



The distillery industry in India is experiencing robust growth, driven by premiumization, changing consumer preferences, regulatory reforms, and investments in capacity expansion by both domestic and international players. To start a distillery in India, the legal framework governing the establishment of distilleries varies across states, and compliance with state-specific regulations is crucial. Additionally, it is necessary to have the necessary documents and approvals in place, such as licenses from the State Excise Department, manufacturing licenses, and other permits required for the production and distribution of alcoholic beverages.

The essential raw materials for an Indian distillery unit include molasses, grains (such as rice, maize, millet, sorghum, wheat, and barley), sugarcane, sugar beet, potatoes, and rice straw (used as fuel). Distillery units in India can use different raw materials depending on availability and cost-effectiveness. Some units are designed to handle multiple raw materials, allowing them to switch between producing ethanol and extra neutral alcohol (ENA) easily.





The primary obstacles faced by distillery industries in terms of social promotions include stringent regulations on alcohol advertising and promotion, the difficulty in establishing trust and authenticity, standing out in a competitive market, complying with local laws, and balancing promotion with responsible messaging. To address these challenges, distilleries should prioritize storytelling and showcasing their unique brand identity to create emotional connections with consumers. User-generated content can also be utilized to build trust. Additionally, effective branding, visual marketing, and digital strategies are essential to differentiate their products and stories from competitors.

In conclusion, the scope for starting a new distillery in India is promising, given the growing demand for alcoholic beverages and spirits in the country. However, it is essential to comply with the legal framework governing the establishment of distilleries, which varies across states, and to have the necessary documents and approvals in place. The expenses associated with establishing a distillery unit in India can vary depending on several factors, and the primary obstacles faced by distillery industries in terms of social promotions include stringent regulations on alcohol advertising and promotion, the difficulty in establishing trust and authenticity, standing out in a competitive market, complying with local laws, and balancing promotion with responsible messaging.

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Schedule of Events

Discover the World of Professional expertise,
innovation, and culinary mastery.

Event Name	Dates	Venue
The National Restaurant Show	18-21 May, 2024	McCormick Place, Chicago, IL, USA
Inter FoodTech	05 - 07 June, 2024	Yashobhoomi(IICC), New Delhi, India
Craft Drinks India	1-2 July, 2024	Bengaluru, India
India HoReCa Expo	3-4 July, 2024	Coimbatore, India
Bakers Technology Fair	3-5 July, 2024	Codissia, Coimbatore, India
India International Hospitality Expo	3-6 August, 2024	India Expo Centre & Mart, Greater Noida, India





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