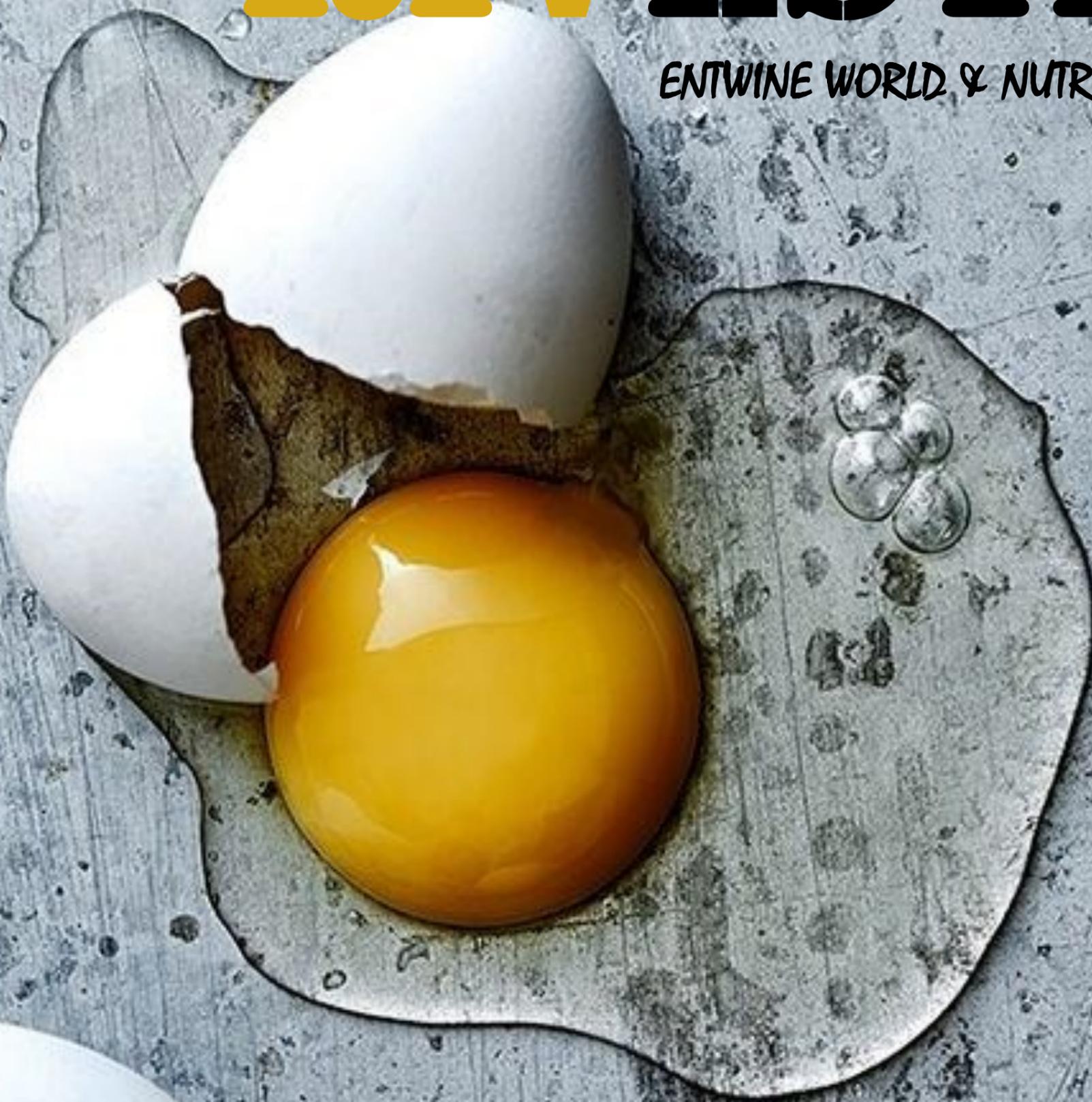


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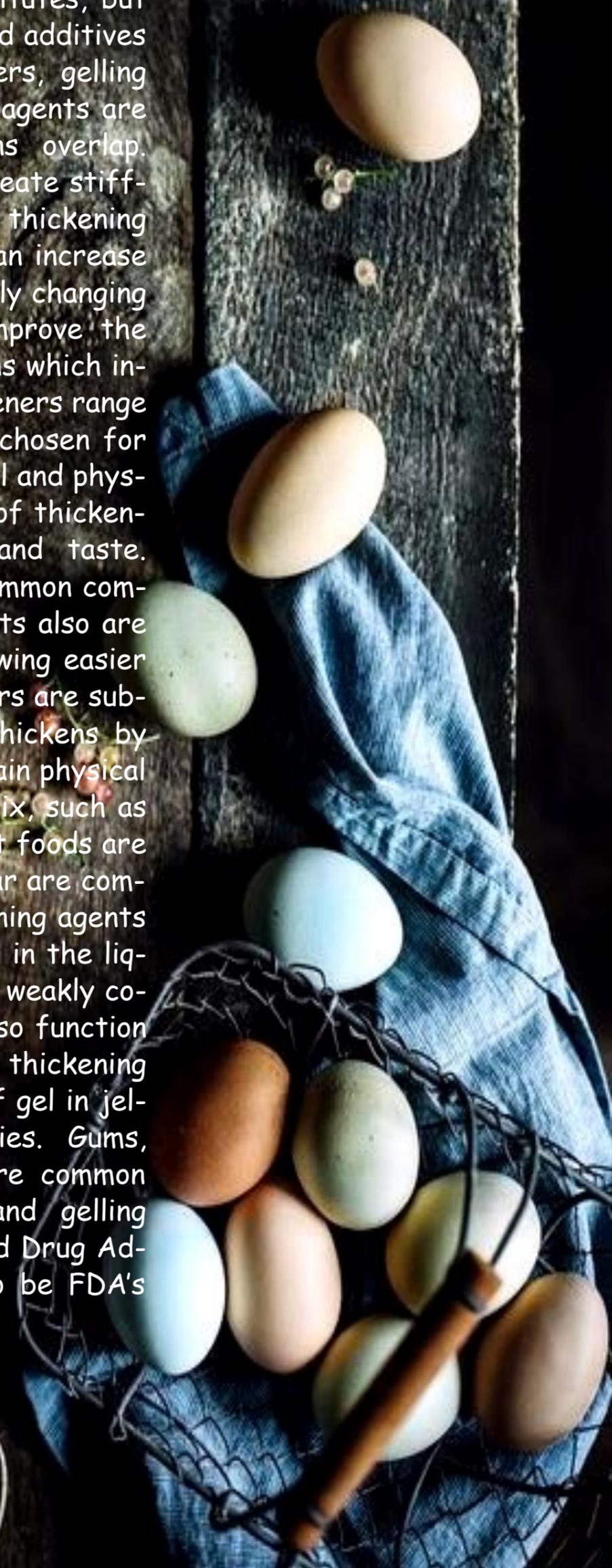
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ADDITIVES POP UP IN THE FIRM.....

With the emergence of factories during the industrial revolution, adulteration increased dramatically. Most of this had to do with the cheaper substitutes, but some of it involved what would now be called additives such as coloring agents, flavors, thickeners, gelling agents. Thickeners, stabilizers and gelling agents are classified separately but their functions overlap. When dissolved or added to foods, they create stiffness, stabilize emulsions or form gels. A thickening agent or thickener is a substance which can increase the viscosity of a liquid without substantially changing other properties. Thickeners may also improve the suspension of other ingredients or emulsions which increases the stability of the product. Thickeners range from flavorless powders to gums and are chosen for their ability to work in a variety of chemical and physical conditions. Variables affecting choice of thickeners include pH, frozen state, clarity and taste. Starches, pectin and gums are the most common commercially used thickeners. Thickening agents also are used in treating dysphagia to make swallowing easier and reduce the risk of aspiration. Stabilizers are substances that increase the stability and thickeners by helping foods remain in an emulsion and retain physical characteristics. Ingredients that do not mix, such as oil and water need stabilizers. Many low fat foods are dependent on stabilizers. Lecithin, agar-agar are common in ice cream, margarine. Some thickening agents are gelling agents, forming a gel, dissolving in the liquid phase as a colloid mixture that forms a weakly cohesive internal structure. Gelling agents also function as stabilizers and thickeners to provide thickening without stiffness through the formation of gel in jellies, jams, desserts, yogurts and candies. Gums, starches, pectin, agar-agar and gelatin are common gelling agents. Thickeners, stabilizers and gelling agents must be authorized by the Food and Drug Administration before use. They are said to be FDA's "generally recognized as safe".

KAVYA.M (2016016025)



CARRAGEENAN

Carrageenans are food additives extracted from red edible sea weeds. Industries use this carrageenans as stabilizer, thickener etc. Carrageenans have no nutritive value (or) flavor despite it is weed widely. Though these carrageenans were introduced in industries in 1920's they were first used in China and then in Ireland. Food grade carrageenans are extracted from red seaweed and processed with alkali. Refined carrageenans and semi-refined carrageenans are two grades of carrageenans. The former has 2% maximum of acid insoluble material and processed by alcohol precipitation process and the latter contains a much higher level of cellulose content. Indonesia, Philippines and



Chile are the main source of raw material and extracted carrageenans. Carrageenans have wide range gelling and emulsifying properties ranging from soft slime to brittle gel. They also have reactivity to milk proteins, being used in low concentration in dairy industries to prevent fractionation of milk constituents. They are very good at keeping chocolate in suspension. It has been successfully used by the food industries in US since 1980's and with increasing demand by the consumer need for convenience appearing for food to use, advances in food processing and new food products. They are used worldwide in enhancing Ice creams, chocolate milk, custards, cheeses, jellies, meats and protein drink. Carrageenans are also into pet foods, water gel desserts, frozen desserts, so on. It can also substitute for fat in non or low fat and dairy replacement products aimed at vegan makers. Some manufacturers, use carrageenans as binder in processed meats and some inject it into pre cooked poultry to tenderize meat and keep it juicy for longer. Industries often use carrageenans as a vegan alternative to gelatin in desserts. Carrageenans is an approved food additive. FDA insists, manufacturers to state whether the product contains carrageenans on labeling, so that people who are allergic could avoid. They even have alternatives to carrageenans which are its replicates for example gum Arabic, locust bean, alginate, guar gum, vantham gum etc. Now comes the controversy whether carrageenans is safe? carrageenans is a approved food additive but it has some limitations. At doses up to 5% in the diet carrageenans has no toxic efforts. Carrageenans is likely safe for most people when eaten by mouth in food amounts. An altered form of carrageenan that is available in France to treat peptic ulcers is unsafe. As mentioned above carrageenans are usually processed with alkalis but when they are processed with acids

it create a substance called degraded carrageenans or poligeenan which causes significant health issues. This poligeenan is an inflammatory substance. Researchers often use it to test anti-inflammatory drugs in laboratory. Poligeenan is not an approved food additive. Degraded carrageenan is not safe to eat. Findings have led the international agency for research in cancer to list poligeenan as possible human carcinogen. This agency come to this conclusion by testing it with animals. Some scientists are concerned that food grade carrageenans is also dangerous. This is because, various studies showed that the substance may degrade and become toxic when it mixes with stomach acid. Still the medical community is unsure that to what extent carrageenans degrade in digestive system. It is important to note that no carrageenan related studies involved human participants. Now findings, indicated that non degraded carrageenans can also cause inflammatory and bowel disorders. The common side effects of carrageenans may include bloating, irritable bowel syndrome, glucose intolerance, food allergies. Some people report that eliminating carrageenans from the diet has helped to retrieve some of the above symptoms. These studies have not shown conclusively whether the degrade carrageenans is dangerous or not. As far as the health is concerned, it is better to avoid carrageenans in most of the aspects because it cannot be avoided all the times.

REFERENCE: <https://en.wikipedia.org/wiki/Carrageenan>

GOWSHIKA. K. S
2016016015

AGAR – AGAR

Agar or Agar – Agar is a jelly-like substance, obtained from red algae. *Gracillaria lichenoides* is the primary source of agar- agar that is seaweed in the Western coast of the United States and some parts of Asia. In order to make agar- agar, the seaweed is first boiled then cooled, purified and then dried. It is also known as Kantan, China grass, Japanese isinglass, Ceylon moss or Jaffna moss. E number for agar-agar is E406 and extensively used to make ice creams. Besides this agar is a chief ingredient in some parts of Asia and Japan. It is used in making soups and jellies. It also acts like food thickeners. Earlier agar-agar was used in the laboratories for the growth of culture medium as it is not protein but a polysaccharide. Agar consists of mixture of two polysaccharides: agarose and agarpectin, with agarose making up 70% of the mixture. Agarose is a linear polymer, made up of repeating units of agarobiose. Agarpectin is a heterogeneous of smaller molecules that occur in lesser amounts, and is made up of alternating units of D-galactose and L- galactose. Agar exhibits hysteresis, melting at 85⁰c and solidifying from 40⁰c. This property lends a suitable balance between easy melting and good gel stability at relatively high temperature. Because of agar's high melting point, it must be dissolved in hot water before using. Since many scientific applications require incubation at temperature close to human body temperature (37⁰c), agar is more appropriate than other solidifying agent that melts at this temperature, such as gelatin. Agar is a prized ingredient for more reasons than just being vegetarian. Unlike gelatin, which melts at around body temperature, agar will stay solid at warmer temperature. Agar solidifies at temperature below 122⁰ F (50⁰c), which means that refrigeration is not required to set an agar gel.

Agar is also much more powerful gelling agent than gelatin. One teaspoon of agar will give as much thickening power as 8 teaspoons of gelatin. It is important to note that although both agar and gelatin will solidify liquids, the resulting textures are slightly different. Gelatin can give a creamy texture whereas agar gives a firmer texture. Agar will not impart any color, flavor, or odor to the food to which it is added. Agar is 80% fiber, contains no fat, no protein, and small amount of carbohydrates. 10 grams (2 teaspoons) of agar contains only 3 calories, derived from its small amount of carbohydrates. Due to agar's high level of fiber, agar is sometimes used as a dietary aid to promote fullness or as a laxative. Agar also contains a small amount of iodine and other trace minerals. Agar – agar is an allowed non-organic / non-synthetic additive used as a thickener, gelling agent, texturizer, moisturizer, emulsifier, flavor enhancer and absorbent in certified organic foods. Gelidium agar is used primarily for bacteriological plates.

Gracillaria agar is used mainly in food applica-

tions. In 2016, AMAM, a Japanese company, developed a prototype for Agar – based commercial packaging system called Agar plasticity, intended as a replacement for oil – based plastic packaging.

REFERENCE: <https://www.webmd.com/vitamins/ai/ingredientmono-80/agar-agar>



MELT RESISTANT ICE CREAM

Using banana fiber

Ice cream that spends more time on your cone and less time dripping down your fingers is closer to becoming a reality, thanks to researchers at the Universidad Pontificia Bolivariana in Colombia and the University of Guelph in Canada. According to findings presented by the team of scientists at the 255th National Meeting and Exposition of the American Chemical Society, fibers harvested from leftover banana plants could be the key to thicker, slower-melting ice cream.

The researchers started out investigating potential uses for banana plants that have already borne fruit. Banana fruit stems, or rachis, are usually treated as waste, but they contain tiny fibers that can change the consistency of foods. When mixed with ice cream, researchers found that these fibers, called cellulose nanofibrils or CNF, create a product that melts at a much slower rate than conventional ice cream. The addition of CNF also extends the ice cream's shelf life and makes it more stable when subjected to changing temperatures.

"The fibers could lead to the development of a thicker and more palatable dessert, which would take longer to melt," researcher Robin Zuluaga Gallego said in a press statement. "This would allow for a more relaxing and enjoyable experience with the food, especially in warm weather."

Ice cream made with banana plant fibers offers another benefit: The plant material adds creaminess and body to the mixture, potentially replacing some of the fat that ice cream typically relies on for its texture.

These scientists aren't the first innovators to make progress on the non-melting ice cream front. Researchers in Japan made a similar concoction using polyphenol liquid extracted from strawberries, and astronaut ice cream, though definitely not creamy, avoids the melting problem through freeze-drying.

REFERENCE: <https://www.studyfinds.org/melt-resistant-ice-cream-banana-extract>

KOWSIKA.N (2016016027)



ANSWER FOR THE LAST EDITION

FARM TO FORK:

The answer for the left process in the "FARM TO FORK" session is spinning. The granulated, colored sugar in the enclosed chamber is melted by the heaters and squeezed out through tiny holes by the centrifugal force. The molten sugar solidifies in air and caught in a larger bowl where cotton like product builds up on the inside wall of the larger bowl. The machine operator twirl a stick around the rim of the bowl gathering the strands on the stick.

WHO AM I :

The last edition answer for "WHO AM I" session is **HIGH PRESSURE PROCESSING(HPP)**.

Organic food preservatives: *antimicrobial and antioxidants from pomegranate and grape seeds*

Food additives are substances used to preserve the flavor, maintain the taste, as well as other qualities. Growing health concerns among a sizeable global population, together with increasing awareness about the benefits of consuming organic foods are most likely to foster the demand for organic food additives.

Organic food additives are the natural additives which serve as a better alternative to food additives as it offers extra nutrients such as minerals, vitamins, phytonutrients, and others. These preservatives also help in reducing the spoilage from air, bacteria, fungi, and yeast. Changing lifestyle and consumer's preference towards ready to eat food, packaged foods and frozen foods are key drivers for the market. These additives are observing a high demand because of its nutritional as well as for the antimicrobial property. Health conscious consumers nowadays, precisely check product labels to know the exact composition of packaged foods before purchasing. Organic food labelling is currently an increasing trend among manufacturers. About one-third of the world's food production is lost or wasted every year. Food waste is when foods that are still good for human consumption, are thrown away by retailers or consumer, according to FAO 40% of food losses in developed countries. Frequently fruits reach the consumer in formulations such as juices and pastes instead of their whole form. The by-products of these formulations possess some powerful biological activities, making them potential sources of bioactive compounds. The extraction processes, in their majority, are simple and resort to eco-friendly solvents such as ethanol or water. Pomegranate and grape seed extracts present high antioxidant and antimicrobial activity, which makes them excellent candidates to be used as natural additives or active compounds in the food and food packaging industries. Grape seed extract is even safe to use as a disinfectant for drinking water when necessary.

REFERENCE: <https://www.formnaturewithlove.com>

MEENAKSHI.P (2016016032)

Spanish Food Ingredient Company Premium Ingredients Launched two new stabilizers for analogue pizza cheese. The two new ingredients are Premitex[®] XLKK-15043 and Premitex[®] XLK-15067. The former one is designed for all types of machinery, facilitating the manufacture of the final product, while the latter one is aimed for only vegan products. Premitex[®] XLKK-15043 is a stabilizer based on starches, hydrocolloids and melting salts. It allows the manufacturing of final product in simple machines and less optimized than expensive twin screw equipment. Premitex[®] XLKK-15043 consists of blend of starch, hydrocolloids and fiber and is ideal for making high quality cheese with the total replacement of casein, animal protein.

<https://www.dairyreporter.com/Article/Premium-Ingredients-develops-pizza-cheese-stabilizers>



THICKENERS AND STABILIZERS

GUAR GUM – E412

Guar gum also called Guaran, is a galactomannan polysaccharide extracted from guar beans that has thickening and stabilizing properties useful in the food, feed and industrial applications. The largest market for guar gum is in the food industry. In the US, differing percentages are set for its allowable concentration in various food applications. In Europe, guar gum has EU food additive code E412. Xanthan gum and guar gum are the most frequently used gums in gluten free recipes and gluten free products. In baked goods, it increases dough yields, gives greater resiliency, improve texture and shelf life. In dairy products, it thickens milk, yogurts, kefir and liquid cheese products. It helps maintain homogeneity and texture of ice creams and sherbets. It is used for similar purpose in plant milks. For meat, it functions as a binder. In condiments it improves the stability and appearance of salad dressings, barbecue sauces, relishes, ketchups and others. In canned soups it is used as a thickener and stabilizer. The FDA has banned guar gum as a weight loss pill due to reports of the substance swelling and obstructing the intestines and esophagus. In 2007, the European commission issued a health warning to its member states after high levels of dioxins were detected in the food additive – guar gum used as thickener in small quantities in meat, dairy, desserts or delicatessen products. The source was traced to guar gum from India that was contaminated with pentachlorophenol, a pesticide no longer in use. PCP contains dioxins as contamination. Dioxin damages the human immune system.

CARRAGEENAN – E407

Carrageenan or Carrageenins are a family of linear sulfated polysaccharides that are extracted from red edible seaweeds of the class Rhodophyceae by heating and converting into a gel. They are widely used in food industry for their gelling, thickening and stabilizing properties. Their main application is in dairy and meat products, due to their strong binding to food proteins. Carrageenan is a vegetarian or vegan alternative to gelatin in some applications or may be used to replace gelatin in confectionery. They are used in salad dressings, prepared meat and fish, flavored milk, processed cheese, ice creams, evaporated milk, creams, cottage cheese, sour milk, infant formula, alcoholic beverages, sauces, jam, jelly, crackers, pastries, custards and dressings. Carrageenan is also used in experimental medicine, pharmaceutical formulations, cosmetics and industrial applications. When used in food products, it is written as E407 or E407a. E407a has slightly different composition. The type of Carrageenan that can be added to food in the EU is very specific. It must not be in a chemically degraded form. A recent review of animal studies suggested that Carrageenan must be associated with cancer in the gastrointestinal tract. But comparable evidence does not exist in humans. The Food Standards Agency in UK is currently carrying out toxicological research on Carrageenan and is developing a method to measure levels of this additive in food. It's known adverse effects include liver damage, effect on the immune system and it is suspected to cause cancer.

PROPYLENE GLYCOL ALGINATE – E405

Propylene glycol alginate (PGA) is an emulsifier, stabilizer and thickener used in food products. It is a food additive with E number E405. Chemically, propylene glycol alginate is an ester of alginic acid, which is derived from kelp. Some of the carboxyl groups are esterified with propylene glycol, some are neutralized with an appropriate alkali, and some remain free. It is processed from alginate by esterification. Compared with alginate, it has more advantages and unique application in the food industry. There is a more effective stabilizing agent that can be used in yoghurt and produce a superior taste and better stability, that is, PGA. It helps to give yoghurt products a natural texture and taste and even under the condition of the reduction in the addition of dairy solid substance, it can still well display such a feature. It can effectively prevent products from forming in aesthetic and rough appearance and make the appearance of products smooth and glossy. PGA is comparatively excellent in dispersibility and solubility and is also very stable during the whole heating process.

REFERENCE: www.everbum.com/.../food-additives-thickeners-stabilizers-emulsifiers

DONE BY: **MONALISHA.B(2016016037)**

AMELIORATION OF FOOD PACKAGING

During ancient times, packaging was not known and people during those times consumed only fresh foods then some situations like travelling, occupation etc. favored the idea of packaging of foods. Initially, ancient people used natural materials for packing foods such as leaves. Later, they used weaved materials and pots. In 1823, Peter Durand, an Englishman, obtained the patent for the first packaging metal made from sheet metal called “canister”. Particularly, in the packaging of foods, glass and wood packaging are more common methods till now and are being used for more than 5000 years. During 1900s, cardboard and paper gained more importance in this field. During later times, the innovation of plastic replaced all other packaging materials and occupied the whole food packaging area. Even though, it had many disadvantages it is used for packaging up to date.

The very oldest material used for packing food materials is **paper** which is re-shapeable. Paper is mainly used in the packing of dried foods and as a supporting material for other food packaging like labels, coverings etc. which also play a major role in food packaging area.

In 1500 B.C, Egyptians used **glass** for packaging which was made with melted limestone, soda, silicate, sand and then shaped in to mugs and pots. Then, the transparent glass was invented and used for packaging of high value products till now.

Metal packaging of foods was first said by Napoleon Bonaparte, his idea was first used to protect army's food supply. Nicolas Appert from Paris presented the tinned can packaging which has the ability to preserve food after sterilization. A year later, Englishman Peter Durant earned the right to patent the cylindrical can with his pressed stannic invention. The first aluminum canned food came out in 1959. Screws and hammers were being first used to open metal packaging until 1866. Later, packaging with tearable lids was made. In 1875 can opener was invented and used till now. Metal packaging has passed through many phases and renewed itself which suits for modern lifestyle also.

Plastics in other words the newest emerging form of packaging during recent times as it fits more for modern lifestyle and keeps the food fresh for longtime when compared to other methods of packaging. The first artificial plastic was prepared by Alexander Parker in 1838 and was displayed at Grand International Fair in London in 1862. This plastic was intended to replace all other natural materials in food packaging. Plastic packaging has begun to be used widely after 1950s. Towards the end of 1970s plastic packaging sector begun to grow and now it is the most popular sector in the food packaging area.

In recent times, **‘bio-plastics’** are innovative plastics became popular which are made of renewable raw materials such as from fruits, vegetables etc. using bio plastics as an alternative can be considered as an expensive choice because of its high cost of production. Though it is eco-friendly, its high cost leads to less popularity in the area of food packaging.

REFERENCES:

<https://www.charlotepackaging.com>

<https://www.irishtimes.com>

DONE BY: **MANOJA.V(2016016031)**

WHO AM I?

I am obtained from bones, connective tissues, and from skins of animals i.e.; animal collagen. My appearance has the following properties translucent, flavorless, tasteless and colorless. Widely used as a thickening agent for savory sauces. I am a protein based and I am a well suitable substitute thickener for gluten free, low-carbohydrate and grain free diets. Also commonly used as a gelling agent in food, medications, drug and vitamin capsules, photographic films and papers and cosmetics. My recipe use comes in the form of powder, granules, or sheets. I am a mixture of peptides and proteins produced by partial hydrolysis of collagen. I am usually obtained from cattle bones and pig skin. Now guess the thickening agent .

KAVYA.M (2016016025)

NEW PRODUCTS

Coca-Cola launches new Sofit Raisin and Flax Sprite Lymonade with 'tart taste twist' Seeds Protein Cookies

The Coca-Cola Company has launched Sprite Lymonade, a new beverage which adds a subtle splash of lemonade to the lemon and lime-flavored soft drink. The beverage is made with 1% juice and has been created in response to the popularity of sparkling lemonade.



The whole wheat cookies with



oats and soya claim to be enriched with protein to help in building muscles, omega-3 and multivitamins to help stay active. It is also said to contain fiber to help with digestive health. Biscuits are practically a staple in India and offering high-protein variants makes the macronutrient more accessible to the common man .

TBH Gourmet Crispy Beetroot Chips with Mediterranean Sea Salt

Mintel research indicates that Indians are interested in increasing their vegetable intake. Brands can help this goal by launching vegetable snacks that bring together taste and health.



These vegetable chips

by TBH are said to be vacuum fried and claim to contain 50% less oil than regular chips to retain all the nutritional quality and enhanced color.

REFERENCE: <https://www.foodbev.com/news/category/new-products/page/3/>

DONE : NACIBA.N (2016016038)

FARM TO FORK



Hello Readers...During our childhood days, everyone would be definitely cried for ice cream after hearing the truck bell sound. The palatability for the ice cream last even for adults too. This session delineate the process of making ice cream.

Ice cream is the frozen product obtained from cow or buffalo milk or a combination there of or from cream and / or other milk products with or without the addition of cane sugar, eggs, fruit juices, preserved fruits, nuts, chocolate, edible flavors and permitted food color. The product should contain not less than 10 % milk fat 3.5 % protein and 36% total solids. Answer for the left process will be in our next edition.

PRODUCTION PROCESS:

All dried ingredients are weighed while liquid ingredients are proportioned in liters and added to the mixing tanks. The mixing tanks are designed such that they are heated indirectly (e.g. double jacketed vats) and they have very efficient agitators to facilitate uniform distribution of heat .All ingredients are blended using blending system. It is important to ensure that the dried ingredients are properly suspended in the mixing tank to avoid lumpiness of the mix. Proper suspension is achieved either by mixing dry ingredients thoroughly with part of the sugar before slowly adding the remaining sugar or by sifting and slowly adding these dry ingredients into the liquid while slowly agitating the entire mix. Gelatin is best added after thorough mixing with equal quantity of sugar, which is added cold into the mixture. It can also be sprinkled onto the surface of cold liquid and allowed to soak for about 30 minutes before heating. Pre-heat the mix to 73-75°C then homogenize at 140 – 200 bars then pump the mix to the PHE and pasteurize at 83 – 85°C for 15 seconds. Cool the mix to 5°C and transfer to the tank. The mix is aged for between 4 – 24 hours at 2 – 5°C under continuous agitation results in soggy and heavy ice cream. Flavors are added just before the mix is frozen (because they are volatile and will escape if added before pasteurization). From the aging tanks, the mix is pumped to the continuous freezer where air is whipped in as it is frozen between the temperatures of -3°C and -6°C. The increased volume of the ice cream due to incorporation of the air is the overrun (80 – 100%). The ice cream leaving the continuous freezer has a texture similar to soft ice hence needs to be taken to the hardening tank, then to the modelling and finally packaging. Continuous freezing facilitates faster freezing leading to very small ice crystals. The hardened ice cream is then stored at temperatures of $\leq -25^{\circ}\text{C}$. The storage shelf life is about 9 months. Hardening completes the ice cream freezing process and stabilizes the product so that it does not melt down too quickly.

REFERENCE: <https://dairytechnologist.com/wp-content/cache/all/ice-cream-making-process//index.html>

KOWSIKA.N (2016016027)

ADDITION OF
INGREDIENTS

FORMULATING THE
MIX

BLENDING & MIXING

PASTEURIZATION

HOMOZENIZATION

?

ADDITION OF
FLAVOUR

FREEZING

PACKAGING &
STORING



INDUSTRIAL UPDATES

Meghalaya government keen to open food processing hub in state, says CM

The Government of Meghalaya is keen on opening a food processing hub in the state. This was stated by Conrad K Sangma, chief minister, Meghalaya, at the inaugural session of Innovative Financial Solutions for Micro-, Small and Medium Enterprises (MSMEs), an event held by the Associated Chambers of Commerce and Industry (ASSOCHAM) in New Delhi recently. MSME has played a prominent role in the development of the country in terms of creating employment opportunities. MSME has been creating 11.10 crore jobs (360.41 lakh in manufacturing, 387.18 lakh in trade and 362.82 lakh in other services and 0.07 lakh in non-captive electricity generation and transmission) in the rural and the urban areas across the country," it added.

Nestle India & Flipkart tie up to launch Maggi Special Masala noodles

Nestle India has announced that it will partner with Flipkart to launch Maggi Special Masala Noodles, which epitomises the flavours of India and brings with it the goodness of 20 finely ground and whole spices, roasted to perfection. As a part of the partnership, consumers can now pre-book Maggi Special Masala Noodles

on Flipkart. This product will also be available exclusively on Flipkart between August 25 and 30, 2018, following which it will be available nationwide through Nestlé's strong distribution reach. Talking about the launch, Maarten Geraets, general manager, foods, Nestle India, said, "We are excited about our partnership with Flipkart, as it will give a chance to Maggi lovers to try this innovation from the convenience of their homes." "The product uses spices and condiments present in Indian kitchens. We are confident that this product with its special taste from 20 finely ground and whole spices and specially created bouncier non-sticky noodles would be appreciated by our consumers," he added. Nishit Garg, senior director, Flipkart said, "Nestle and Flipkart's association to launch the upcoming Maggi flavour exclusively on Flipkart cements the transition of FMCG's physical goods into the digital space." "Having travelled through several generations, Maggi proudly enjoys an enduring relationship with its customers. And, we are very excited to partner through this journey of delighting our customers, now online," he added. In line with its new thinking, Kuchh achha pak raha hai, Maggi Special Masala noodles, uses ingredients right out of kitchen cupboards and is inspired by India's rich and diverse culinary tradition.

International conference on food processing tech advances begins at IIFPT

The International Conference on Recent Advances in Food Processing Technology (iCRAFPT) has commenced at Indian Institute of Food Processing Technology (IIFPT), Thanjavur, Tamil Nadu. The three-day meet, whose theme is doubling farmers' incomes through food processing, concludes on August. It was inaugurated by Jagadish Prasad Meena, secretary, Ministry of Food Processing Industries (MoFPI), Government of India, and Bijaya Kumar Behera, economic advisor, MoFPI. K Parasuraman, Member of Parliament (MP) from Thanjavur constituency was the guest of honour. C Anandharamakrishnan, director, IIFPT, also presided over the inaugural session. IIFPT is a premier national institute working under the administrative control of MoFPI. Besides delivering research and education in food processing, the institute has been incubating farmers, entrepreneurs and aspiring youth for prospective food business ventures, considering this importance and promotion of food processing among farmers, budding entrepreneurs and researchers.

Source: <http://www.fnbnews.com>

DID U KNOW ?

The Brain mushroom (*Gyromitra esculenta*)

Gyromitra esculenta, one of several species of fungi known as false morels, is an ascomycete fungus from the genus *Gyromitra*, widely distributed across Europe and North America. It normally sprouts in sandy soils under coniferous trees in spring and early summer. The fruiting body, or mushroom, is an irregular brain-shaped cap dark brown in color which can reach 10 cm high and 15 cm wide, perched on a stout white stipe up to 6 cm (2.4 in) high. Although potentially fatal if eaten raw, *Gyromitra esculenta* is a popular delicacy in Scandinavia, Eastern Europe, and the upper Great Lakes region of North America. Although popular in some districts of the eastern Pyrenees, it is prohibited from sale to the public in Spain. It may be sold fresh in Finland, but it must be accompanied by warnings and instructions on correct preparation. It is eaten in omelets, soups, or sautéed in Finnish cuisine. Although it is still commonly parboiled before preparation, recent evidence suggests that even this procedure may not make the fungus entirely safe, thus raising concerns of risk even when prepared properly.



REFERENCE: <https://oddstuffmagazine.com/bizzare-mushrooms-from-around-the-world.html>

READER'S COLUMN:

25th issue of **ESSEN RIVESTA** about “**FOOD ADDITIVES**”. This edition covers the area of food thickeners & stabilizers since food additives have a enormous applications in the food industry, . This edition delineates about the thickeners like Carrageenan, agar-agar. It also includes melt resistant ice cream using banana fibre. And tells the process of making Ice cream in a step by step manner in the Farm to Fork column. It also expatiate the amelioration of food packaging because food packaging plays a vital role in food industry. To make the readers more curious, many columns are included.

EDITOR

KOWSIKA.N (2016016027)

AGRICULTURAL ENGINEERING COLLEGE AND RESEARCH INSTITUTE

TNAU, Coimbatore. TamilNadu-641003

Cordially post your feedbacks to essenrivesta@gmail.com

Don't forget to view our publications at: www.foodxploretnau.com

Ph: 9445110036, 9789743772

