



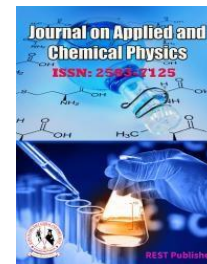
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The Applications of Nanotechnologies in Food Science using the ARAS Method

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Abstract: Nanotechnologies in Food Science Nanotechnology is an important advanced technology Contribution, growth and sustainability Enable impact in the fields of Food, Medicine, and Agriculture. Nan materials are Healthy, safe, and high-quality functional leading to quality and quantity production of foods, they are biodegradable or semi-degradable in nature. Niño Conventional food processing technologies Better than technologies, food products extend shelf life, prevent contamination, and produce improved food quality. Nanotechnology for functional food development comprehensive review of technologies, in Food Processing, and paid packaging of advanced nonmaterial Current in making, preserving, and storing Describes trends and future perspectives. industry. Food bioavailability, taste, texture, and nana to improve stability Applications of the technologies are particle size possible integration and feeding and surface charge of nonmaterial are achieved by changing food Processing, production, presser, vacation, and products using nanotechnology in pack Refer to created food. Post-harvest Nanotechnology is huge in the food processor and has power. It gets the life of the food character, taste, texture, and consistency Enhances, or unpleasant taste or covers the door, and particle size, size distribution, On Nanotechnologies in Food Science, this detailed review is for future work for Non-food Research and Development and Describes recent trends and future perspectives. Food and beverage, Beverage, Food, Health drink, Food contact material, and Food storage are also reviewed. Nanotechnology is being to detect harmful components in fo Nanosensors and Smart Packaging is Very fast and sensitive to food contamination in systems Helping in identification. Nanoencapsulation is very significant in food science Technology, especially biocomposites and flavors. The additive ratio assessment ARAS method for complex decision problems Tries to simplify and for alternatives that can reflect the difference between by the corresponding indicator (degree of use). Selects the "best" alternative. Nutra Leaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM, and Evaluation Parameters Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage are also reviewed. Result: Fresher Longer TM is showing the highest value of rank whereas Nano tea is showing the lowest value. Nanotechnologies in Food Science using the analysis of Addition Ratio Assessment (ARAS) Fresher Longer TM is showing the highest value of rank whereas Nano tea is showing the lowest value. **Keywords:** NutraLeaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM.

1. INTRODUCTION

As nanotechnology also expands in food science/industry, resulting in increased Human exposure to these substances, nana Human exposure to substances in various ways, Intentional or unplanned escalation is inevitable. However, a few studies on food additives/substances used in food packaging and Analysis of food patterns in foods by doing Potential toxicity of nonmaterial are centered. Bioavailability, bioavailability Distribution, of intangibles Ways and theirs About the ultimate toxicity of exposure little is known. Specifically, food Nan materials acting as additives interact directly with human organs. It's their diet Concentration and intake of food Higher exposure depending on dose may occur. Increasing use of nanomaterials Flavor or color in foods Admissions from public and government

departments have attracted considerable attention [1]. Nanotechnology Applications in Food Industry and pathogen detection, disease treatment delivery systems, food packaging, and biological compounds as new tools to deliver to target platforms Contain processing. In food systems Application of nanotechnology in food products Fresh to improve safety and nutritional value provide methods. This article is about food science and in Applications of Nanotechnology in Technology Review current developments [2]. Nanotechnology also Food and Agriculture New to industries offers opportunities and 1,2: x Food Production Chain Many at different levels of agrochemical distribution Applications can be found; x Animal and Plant Nan materials for Pathogen Detection; x Food and Fodder: Color of food and To improve the taste additives, food additives (egg to increase the bio-availability of iron or other trace elements), innovative food systems (nanoemulsion for fat reduction), granules and Selection of contaminating pathogens from food Nano for binding and removal; x food interaction Ingredients: Antimicrobial or Nanoparticles with antioxidant properties To enhance food safety, spread by chemicals or food Nan particles to detect pathogens Monitor temperature and humidity Biodegradable Nano sensors, Nano clays and nanofilms as prohibited items; x Dietary supplements Nan particles as antibiotics Suspensions, the target of nutraceuticals Nan encapsulation for delivery [3]. Advances in Nanotechnology in Food Science Applications have increased. Food production of foods, Processing, storage, and quality control Nanotechnology can be used in the food industry. Nan materials, conventional micro-scale materials unlike, the new structure, color, and appearance Improve the sensory quality of foods by providing new properties. Harm in foods Nan sensors to detect constituents Nanotechnology is used to design and most food contamination in smart packaging systems Facilitates rapid and sensitive detection. Nano Encapsulation is very much in food science Notable technology, in particular for biological compounds and flavors [4]. Nanotechnology is a new brought about by the industrial revolution Grown and growing Countries are eager to invest heavily in this technology There are, therefore, new ones in various areas like agriculture Structures, materials, creation settings and use Nano Technology offers a wide range of opportunities provides Food, medicine, etc [5]. Nan materials suitable for meal packaging have numerous advantages over traditional packaging materials. The maximum sizeable nanotechnology method for enhancing food packaging homes is Nano coating. Various types of food coatings which include skinny layers or foils may be used to cowl food to offer a mass switch barrier [6]. Nanotechnology may be thought of as the manipulation or self-meeting of individual atoms, molecules, or clusters of molecules, creating devices or substances with exceptional houses. Nano in the food industry Use of technology, although evolving, is predicted to see a dramatic boom. Nanotechnology opens up new markets and clinical opportunities and is taken into consideration as one of the critical technologies of the twenty-first century. The significance of this subject is so exquisite that many of the international's largest meals companies are exploring its capacity application in meals' excellent, safe and packaging [7]. Nanotechnology for Food Industry Nano Product safety issues cannot be ignored. Many academics are concerned about the safety of nanomaterials Concerns have been raised about nanoparticle packaging to migrate from materials to food in Feasibility and Consumer Health emphasizes their impact. The physicochemical properties of nanoparticles differ significantly from macro particles [8]. Nanotechnology in the Food Industry A model was developed to organize and map Nano research areas for the food processing industry. The study indicated that five basic categories of nanotechnology applications and functions currently under development in the food industry include food processing, packaging, nutraceutical delivery, food preservation, and functional foods [9]. Identify underlying mechanical operations related to nanotechnology and safety or packaging issues in food safety, security and safety criteria. In addition, the review focuses on the current and prospects of nanotechnology and discusses the strengths and weaknesses of existing regulatory authorities (ie risks related to toxicological effects). Furthermore, the review discusses current efforts to address these weaknesses and other issues related to the development, understanding, And improvement of nanotechnology. Illustrates an overview of important applications of nanoparticles/nonmaterial and nanostructures in the food industry [10]. Nanotechnology in food includes processing (anti-aging, gelation, and viscosity agents), packaging (improved mechanical and barrier properties), food safety (sensors for pathogens and contaminants, antibiotics, cleaning of equipment and kitchenware), and materials (nutrient and nutrient delivery). thermo-responsiveness and protection of antioxidant molecules) (Duncan 2011, 2012; Synergist et al. 2007). In agriculture, NMs are often studied as tools for pest control, improvement of growth and development processes (including protection against pests and diseases), and monitoring of soil conditions [11]. Nanotechnology-enhanced food packaging offers an improvement over conventional packaging that uses plastic barriers, while its functional components, such as antimicrobial activities, give food products a longer shelf life. It is also involved in the detection of food toxins, and the production of positive and color formation [12]. Nano Food processing and packaging in technology, non-toxicity, regulation and risk and benefit analysis It is the knowledge that fills in the gaps, non-food sector Sustain growth and unpredictable health Risk must be avoided. Food Industry and from a public safety standpoint, this paper's Purpose, Potential Uses, Risks, Food of Nanotechnology related to safety and food This is to provide an initial discussion of the current regulatory status so that industry, legislators, and regulation of food

nanotechnology move forward [13]. Food processing is a lot of technology in the manufacturing sector uncooked substances, excessive biosecurity requirements, and well-regulated technical strategies. In food production, four main areas are Nano-benefits from technology Get: Progress of recent practical substances, Microscale and Nanoscale processing, product development and Improved food security, and Method of insecurity and tool design [14]. Chicken filters by way of exploring programs of nanotechnology internally (packages that form a critical part of the meals) and nanotechnology out of doors (programs that don't shape a fundamental part of the diet but common part of the product offering) a cheese product and in the packaging. This merchandise is selected because They are well established, forming a part of Normal products maximum Irish clieverydayry day buying basket. Additional product attributes flavor, and fitness (Low-fat content Safety, and cost via Long Shelf existence) are some of the advantages of nanotechnology in meals and strongly consider that the authorities have to manage Its use in food of their dietary involvement Status (buying, cooking, and so forth.) become intake were as crucial to this organization as shielding nature and the environment [15]. Four key areas within the Food industry are New Functionality Product development which is notably improved using nanotechnology; micro producer. Claims Nanotechnology in these products from the information provided, that includes Unable to test. NP in that business about the existence and/or type of the same applies to information. of certain products with 'Nanotechnology' on the label Expect to be announced wrong or absent [16]. Despite all their promising marketed applications, food processing nonmaterial have been emulsion), together with animal feed. The capacity risks of convention material serials are beneath ongoing debate and energetic research. More statistics are genuinely needed in hazard evaluation. In addition, several approaches were used Meanwhile, engineering of non-materials to reduce toxicity, improving goal selectivity and constancy. For example, ground visualization, doping, and morphology (i.e. size and Controlled stitching of form) control have been verified to be useful procedures to make engineered materials greater solid and trustworthy. In the following phase, we highlight capacity answers consisting of bio-synthesized (or "green synthesized") and bio-stimulated nonnonmaterial future steering and attention [17]. These encompass reducing the use of preservatives, salt, fats, and surfactants in meal products; Development of recent or improved flavors, textures, and mouth feel through nanoscale processing of meals merchandise. Nano formulations can improve the absorption, absorption, and bioavailability of nutrients and supplements in the body in comparison to bulk equivalents. Nanotechnology-derived polymer composites provide a new lightweight yet robust meals packaging substances (biocides, veterinary tablets) for improved performance, reduced use of farm chemical compounds, better management of programs (e.G. Sluggish-release insecticides), safer and extra nutritious animal feeds (e.G. (Legnano-supplements, antimicrobial components; detoxifying nonmaterial's) and Nano-biosensors for animal ailment diagnosis. Example programs consist of nanoscale feed dietary supplements and feed components, such that a Nano-shape of yeast cell wall-derived biopolymer can bind mycotoxins to guard animals against mycotoxicosis [18]. Food packaging additives are mechanical, thermal, and chemical and provide anti-microbial, anti-fungal properties, and more Sensing microbiological and biochemical change, Color to monitor food freshness Additional such as based sensor strips with features. These applications NPs and nanotechnology encourage researchers and industry to use this technology [19].

2. MATERIALS & METHODS

Alternative and Evaluation parameters: Nutra Leaseanola Active Oil, Nano tea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM and Evaluation Parameters Food and beverage, Beverage, Food, Health drink, Food contact material, Food to Storage

NutraLeaseanola Active Oil: Nutra Lesanola Active Oil has high antioxidant properties that help reduce bad cholesterol and prevent lifestyle diseases. The linoleic acid in Olive Active provides high levels of ATP, a high-energy molecule that provides energy to keep you active and energized throughout the day. Heart-healthy nutrients such as oryzanol in rice bran oil are known for their cholesterol-lowering abilities. Safflower also contains active vitamin E. Safola Gold contains a perfect blend It is more effective in lowering cholesterol than each oil individually.

Nanotea: Nano-Tea is an Assam Company India A revolutionary invention by Ltd Yes, it's a cup of tea Driven by a bold vision to create. Herbal Nanomedicines (HNMs) contain nanosized drugs herbal medicines extracts, concentrated fractions, or biomarker components. HNMs have some advantages due to their increased bioavailability and reduced toxicity. ACIL's pioneering nanotechnology builds on the ancient "phasma" technique of turning gold and silver into edible ash, allowing the body to access the minerals' rich properties. Using this innovative approach that blends ancient wisdom with modern technology, Assam's natural gold-tipped and silver-tipped tea beans are fortified with gold and silver particles, then plated with pure imperial gold or silver, creating a unique flavor and exceptional brew. Health benefits.

Tip Top bread: Tip Top Super Soft White Toast is a delicacy Soft white bread, which is whole the family can also enjoy it. The rest of the tomatoes are Perfect for mopping up sauces and gravies. It's full of your favorite fillings for Breakfast or lunch or a satisfying dinner. Well, anytime is fine. Tip Top is high in fiber, full of vitamins and minerals (such as thiamin, folate, vitamin E, and niacin), has no added sugar, and has no artificial colors, flavors, or preservatives. It has a lower GI compared to regular white bread.

Nanoceuticals Slim Shake: Nanomaterials used in food packaging Improved mechanical barriers, microbial contamination Detection and bioavailability of nutrients Many benefits like improving character provide It is related to food and diet of Nanotechnology in Industries A very common application

Nano silver cutting board: Nanosilver Respiration, the electron transfers system Basal Metabolism and the Microbiome substrate throughout the cell suppress traffic membranes. Softer than wooden cutting boards, Rubber cutting boards are common in restaurants are used. all including raw meat These boards are also available for cutting tasks the best choice of cups. "They're durable, sturdy," And your knife is Easy on, he says.

Fresher Longer TM: Store all leftovers in leak-proof, clear containers or covers. We like Snapware and Rubbermaid—they're airtight, which helps keep your food as fresh as possible. Airtight containers extend the shelf life of food by preventing moisture and are ideal for dry ingredients such as flour, grains, legumes, nuts, and dry pasta. If stored thoughtfully, dry goods can last at least six months in your pantry.

Food and beverage: This means food and beverages Raw, cooked or Processed edibles intended for human consumption in whole or in part, including ice, water, liquor, wine, mixed drinks, beer, soft drinks, soda, and other Drinks. Any drinkable liquid, especially tea, coffee, beer, or other than water like milk: Food is included in the price drink.

Beverage: Beverages mean alcoholic and non-alcoholic beverages, Beer, wine, soft drinks, juices, Milk, liquid food products Packaged or bottled water (but excluding products) human Beverages, and other drinking water for consumption. containing medicines). Drink any beverage, such as tea, coffee, beer, or milk, preferably something other than water: Meals are included in the price drink.

Food: Food is one of the necessities of life Food contains nutrients – the body's Growth, repair, and maintenance of tissues and regulates vital processes required for things. Nutrients The energy our bodies need to function provide Calories are the energy in food Measured in units called

Health drink: Healthy drinks are the most in one's diet is an important part. It is very convenient and leads to weight loss in delicious ways, and empty calories, on the contrary, too Unhealthy weight gain lead to Sometimes Empty Calories can even lead to chronic diseases. Water is the best choice to quench your thirst. Unsweetened coffee and tea are healthy choices. Some beverages should be consumed sparingly or in moderation, including those made with low-calorie sweeteners such as fruit juice, milk, and diet drinks.

Food contact material: Food contact materials are packaging and Containers, kitchen utensils, and cutlery that likes to interact with food like foods All materials and articles are plastic, and a variety of materials including rubber, paper, and metal They can be made from materials. Food contact surfaces Bowed contact seabass Bearing surfaces and drainage, or other exchange, occur during normal operation of food or food contact surfaces.

Food storage: Food storage means cooked and Both raw materials are the entry of microorganisms or without amplification Suitable for future use Conditional stored procedure. There are three types of food storage options: dry Storage does not require a climate-controlled environment and refers to the storage of goods; Refrigerated storage which requires storage at cold temperatures Defined as foods, but frozen Not the temperature; and frozen food Storage, essential foods

Method: The ARAS method for complex decision problems tries to simplify an appropriate indicator (degree of application) "excellent" Through alternate exams It is in between alternative and the best solution Reflects difference and is different Eliminates the influence of units of measurement [20]. ARAS technique might be used. A regular MCDM trouble is related to the project of Limited variety of results Ranking the options, each of them Based on various selection criteria are clearly described, in line with the ARAS method, decide an application characteristic fee. The relative effectiveness of the complexity of the viable opportunity is at once a scheme [21]. Aggregate Ratio Rating (ARAS) in transport companies Measured performance indicators Approach to assessment. The assessment becomes achieved inside which has been evaluated based on 20 overall performance indicators. The received results had been established during the 3-phase manner of the sensitivity evaluation method [22]. The ARAS approach is primarily of the argument that events the complex international may be understood through the usage of easy criteria describing the opportunity below attention describing normalized and of weighted scales for the sum of values optimum opportunity is argued to be most fulfilling. Alternative in evaluation [23]. of renewable energy systems (Polysilicon Solar PV Energy Solid oxide fuel cell Phosphoric acid fuel cell and offshore wind energy systems) importance of

sustainability indicators with input from energy experts ARAS hybrid method. The newly proposed method is advanced in combination with the ARAS method Based on the appro is economic, regulatory, commercial organization, production, form and structure, policy and Many include environmental sustainability one with great application in fields a modern subjective standards-weighting technique [24]. Arras Valley, wherein winter temperatures are not too low, most of the fruit grown within the Vallis are from the Rosaceous own family and consist of valleys Under natural conditions, wild apricots hundreds human selection subject of years Generally humans are low with small fruits Cut back first-class wild apricot bushes low yields, and susceptibility to pests and illnesses [25]. ARAS) approach using gray numbers. Classical decision-making in ARAS Different from the technique approach is a new technique for fixing MCDM troubles in which the Functionality belonging to preferences Values are compared to feature cost by the test maker at the beginning of the method A better alternative is determined. This Can be linked to ambiguity good judgment and grey idea Gray Additively Rating (ARAS-G) is the ARAS Combines the pattern with gray as a technique principle. ARAS method literature new However has it many fields and sectors It has been used in many studies Flash-lamp photolysis ARAS measures with 1,9, one hundred and one confirmed that after the initiation of photosynthesis First 150 PS test Time, oscillations inside the flash became unusable due to lamp Round. In existing tests, PMT intensity due to excimer flash changed into remomonochromaticromating and electronic interference was eliminated via the usage of for all trigger signals optical isolators and Excimer laser proper safety [26]. ARAS cannot cope with ambiguity and subjective judgments and/or Facts and/or incomplete information Uncertainty derived from the absence of Inherent uncertainty of elements and/or inaccuracy in mind Failure to do so will result in unreliable and unreliable estimates. The advantage of the use of fuzzy good judgment is that it takes into consideration the uncertainty that exists. This method that's a completely useful idea for coping with unknown and complex conditions. Headaches [27]. The ARAS method, options to sort and/or analyze use facts for special eventualities. Therefore, via using this approach, choice makers are Their positivity, and pessimism and demonstrate sensible attitudes Given the opportunity. In the paper, a numerical case look at an e-mastering route exam is investigated. The cause for that lies in the importance of this form of mastering. To create an amazing e-getting-to-know path, the Advantage of direction below attention Cons and compared to the opposition and determining its position Essential. In that sense, creators realize which components of the course need development and which are of great satisfaction. The software of the proposed combined method has been validated to be more affordable and suitable in this case [28].

3. RESULT AND DISCUSSION

TABLE 1. Nanotechnologies in Food Science

	Food and beverage	Beverage	Food	Health drink	Food contact material	Food storage
Max or Min	680	315	1200	760	1580	0.119
NutraLeaseanola Active Oil	220	220	460	360	880	0.342
Nanotea	200	200	330	100	380	0.171
Tip Top bread	270	250	630	435	590	0.119
Nanoceuticals Slim Shake	270	270	670	540	1190	1.283
Nano silver cutting board	585	240	1100	680	1580	3.128
Fresher Longer TM	680	315	1200	760	1250	4.732

Table 1 shows the nanotechnologies in Food Science using the analysis of the Addition Ratio Assessment (ARAS) method. NutraLeaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it is also used in Maximum and Minimum Value.

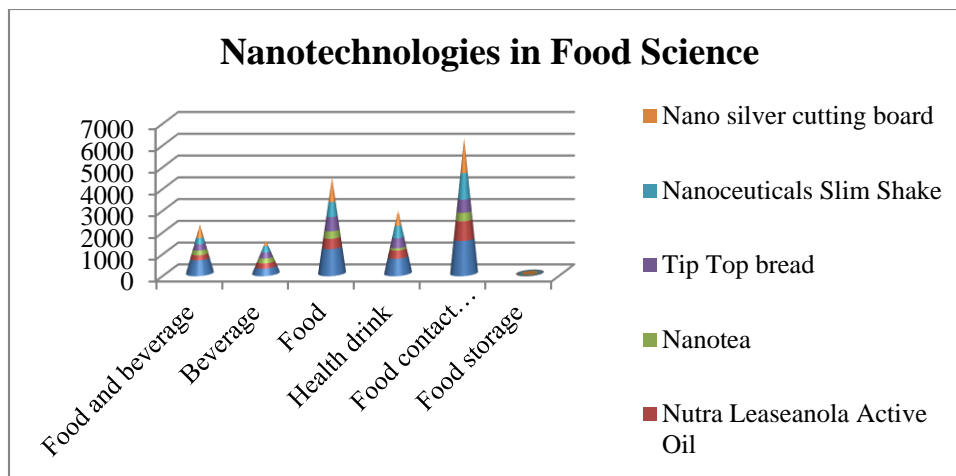


FIGURE 1. Nanotechnologies in Food Science

Figure 1 shows the Nanotechnologies in Food Science using the analysis of the Addition Ratio Assessment (ARAS) Method. Food, Health drinks, Food contact material, Food Storage, and Food contact materialism show the Maximum Value, and Food storage is showing the Minimum Value.

TABLE 2. Nanotechnologies in Food Science Maximum & Divided Value

	Food and beverage	Beverage	Food	Health drink	Food contact material	Food storage
Maxor Min	680	315	1200	760	1580	8.40336134
NutraLeaseanola Active Oil	220	220	460	360	880	2.92397661
Nanotea	200	200	330	100	380	5.84795322
Tip Top bread	270	250	630	435	590	8.40336134
Nanoceuticals Slim Shake	270	270	670	540	1190	0.77942323
Nano silver cutting board	585	240	1100	680	1580	0.31969309
Fresher Longer TM	680	315	1200	760	1250	0.21132713

Table 2 shows the Nanotechnologies in Food Science Maximum & Divided Value of Nutra Leaseanola Active Oil, Nano tea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it is also used in Maximum & Divided Value.

TABLE 3. Normalization of DM

Normalization of DM						
	Food and beverage	Beverage	Food	Health drink	Food contact material	Food storage
Maxor Min	0.234079	0.174033	0.214669	0.209078	0.212081	0.312519
NutraLeaseanola Active Oil	0.075731	0.121547	0.08229	0.099037	0.118121	0.108742
Nanotea	0.068847	0.110497	0.059034	0.02751	0.051007	0.217484
Tip Top bread	0.092943	0.138122	0.112701	0.11967	0.079195	0.312519
Nanoceuticals Slim Shake	0.092943	0.149171	0.119857	0.148556	0.159732	0.028987
Nano silver cutting board	0.201377	0.132597	0.19678	0.18707	0.212081	0.011889
Fresher Longer TM	0.234079	0.174033	0.214669	0.209078	0.167785	0.007859

Table 3 shows the Nanotechnologies in Food Science Normalization of DM Nutra Leaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it is also used in Normalization of DM Value.

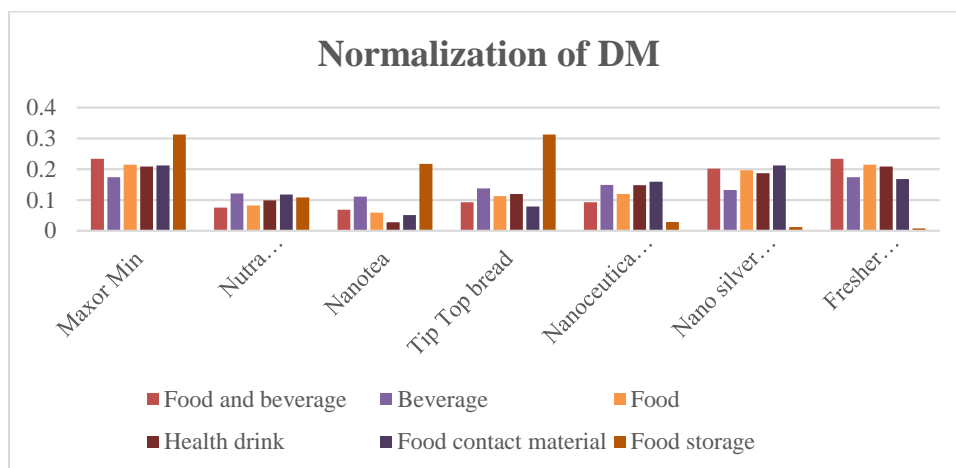


FIGURE 2. Normalization of DM

Figure 2 shows the Nanotechnologies in Food Science Normalization of DM Nutra Leaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it is also used in Normalization of DM Value.

TABLE 4. Weighted Normalized DM

	Weighted Normalized DM					
	0.21	0.18	0.22	0.15	0.13	0.11
	Food and beverage	Beverage	Food	Health drink	Food contact material	Food storage
Maxor Min	0.049157	0.031326	0.047227	0.031362	0.02757	0.034377
NutraLeaseanola Active Oil	0.015904	0.021878	0.018104	0.014856	0.015356	0.011962
Nanotea	0.014458	0.01989	0.012987	0.004127	0.006631	0.023923
Tip Top bread	0.019518	0.024862	0.024794	0.01795	0.010295	0.034377
Nanoceuticals Slim Shake	0.019518	0.026851	0.026369	0.022283	0.020765	0.003189
Nano silver cutting board	0.042289	0.023867	0.043292	0.028061	0.02757	0.001308
Fresher Longer TM	0.049157	0.031326	0.047227	0.031362	0.021812	0.000865

Table 4 shows the nanotechnologies in Food Science Weighted Normalized DM of Nutra Leaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it also shows the Weighted Normalized DM Value.

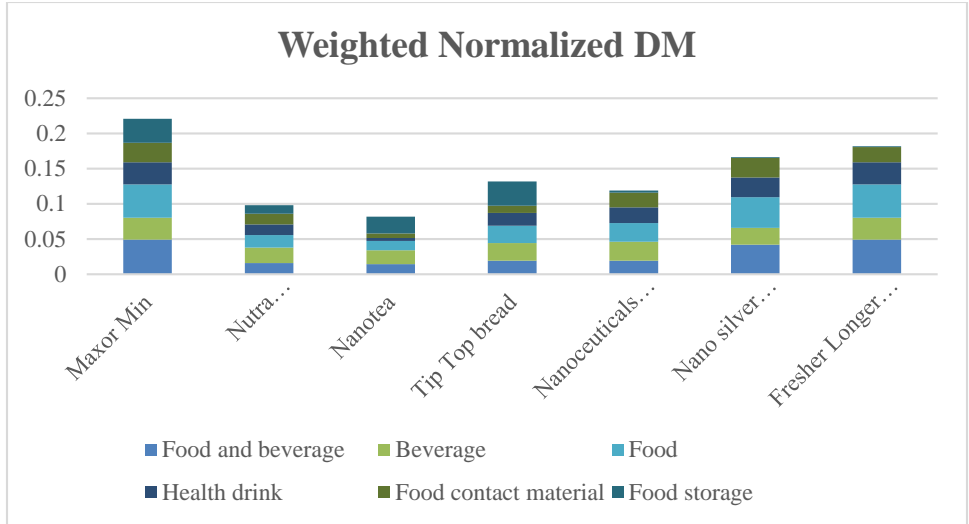


FIGURE 3. Weighted Normalized DM

Figure 3 shows the Nanotechnologies in Food Science Weighted Normalized DM of NutraLeaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer TM Alternative Value and Evaluation Parameters in Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage it also shows the Weighted Normalized DM Value.

TABLE 5. Final Result of Nanotechnologies in Food Science SI, KI Value

	Si	Ki	Rank
Maxor Min	0.221019	1	
NutraLeaseanola Active Oil	0.098059	0.443666	5
Nanotea	0.082015	0.371079	6
Tip Top bread	0.131797	0.596315	3
Nanoceuticals Slim Shake	0.118974	0.538299	4
Nano silver cutting board	0.166387	0.752817	2
Fresher Longer TM	0.181748	0.822319	1

Table 5 shows the Final Result of SI, KI Value for Nanotechnologies in Food Science in Additive Ratio Assessment method. And it shows the SI, KI values In SI method Fresher Longer TM is showing the highest value and Nanotea is showing the lowest value for KI method Fresher Longer TM is showing the highest value and Nanotea is showing the lowest value.

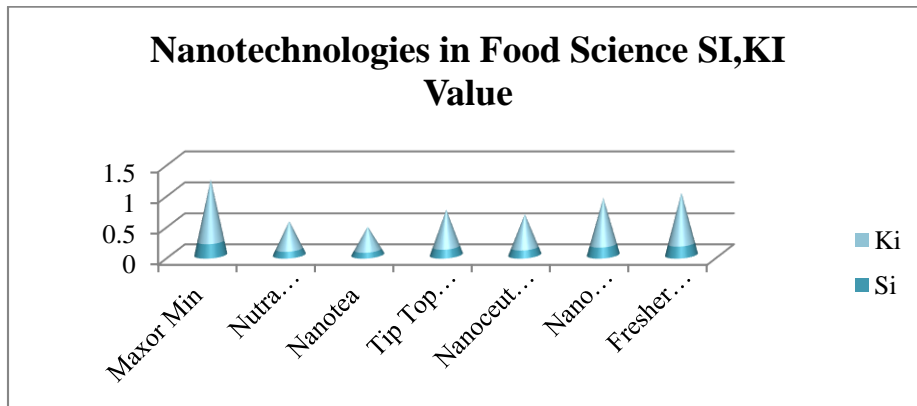


FIGURE 4. Nanotechnologies in Food Science SI, KI Value

Figure 4 shows the Final Result of SI and KI values for Nanotechnologies in Food Science in the Additive Ratio Assessment method. And it shows the SI, and KI values In the SI method Fresher Longer TM is showing the highest value and Nanotea is showing the lowest value for the KI method Fresher Longer TM is showing the highest value and Nanotea is showing the lowest value.

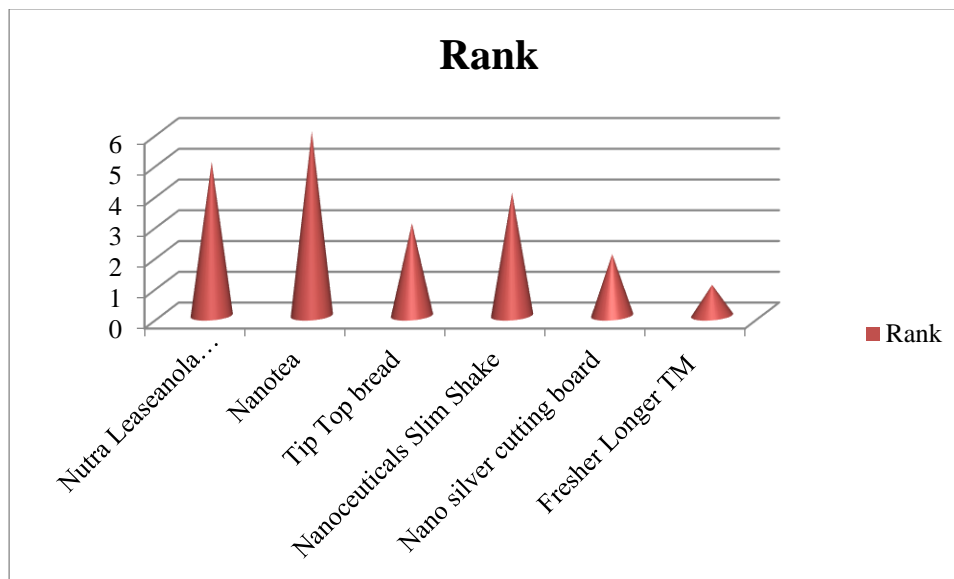


FIGURE 5. Shown the Rank

Figure 5 shows the Rank Nanotechnologies in Food Science using the analysis of the Addition Ratio Assessment (ARAS) Method. Fresher Longer TM is showing the highest value of rank whereas Nano tea is showing the lowest value.

4. CONCLUSION

Nanotechnology is an important advanced technology Contribution, to growth and sustainability that Enables impact in the fields of Food, Medicine, and Agriculture. Nan materials are Healthy, safe, and high-quality functional leading to quality and quantity production of foods, they are biodegradable or semi-degradable. Niño Conventional food processing technologies Better than technologies, food products extend shelf life, prevent contamination, and produce improved food quality. As nanotechnology also expands in food science/industry, resulting in increased Human exposure to these substances, nana Human exposure to substances in various ways, Intentional or unplanned escalation is inevitable. However, a few studies on food additives/substances used in food packaging and Analysis of food patterns in foods by doing Potential toxicity of nanomaterials are cantered. Bioavailability, bioavailability Distribution, of intangibles Ways and theirs About the ultimate toxicity of exposure little is known. Specifically, food Nan materials acting as additives interact directly with human organs. Nutra Lesanola Active Oil has high antioxidant properties that help reduce bad cholesterol and prevent lifestyle diseases. The linoleic acid in Olive Active provides high levels of ATP, a high-energy molecule that provides energy to keep you active and energized throughout the day. Nano-Tea is an Assam Company India A revolutionary invention by Ltd Yes, it's a cup of tea Driven by a bold vision to create. Herbal Nanomedicines (HNMs) contain Nano-sized drugs Herbal medicines extracts, concentrated fractions, or biomarker components. Tip Top Super Soft White Toast is a delicacy Soft white bread, which is whole the family can also enjoy it. Nanomaterials used in food packaging Improved mechanical barriers, microbial contamination Detection and bioavailability of nutrients Many benefits like improving character provide It is related to food and diet of Nanotechnology in Industries A very common application Nano silver Respiration, the electron transfers system Basal Metabolism and the Microbiome substrate throughout the cell suppresses traffic membranes. Food contact material Food contact materials are packaging and Containers, kitchen utensils, and cutlery and like to interact with food like foods All materials and articles are plastic, and a variety of materials including rubber, paper, and metal They can be made from materials. Food contact surfaces Bowed contact seabass Bearing surfaces and drainage, or

another exchange occurs during normal operation of food or food contact surfaces. Food storage means cooked and Both raw materials are the entry of microorganisms or without amplification Suitable for future use Conditional stored procedure. There are three types of food storage options: dry Storage does not require a climate-controlled environment and refers to the storage of goods; Refrigerated storage which requires storage at cold temperatures Defined as foods, but frozen Not the temperature; and frozen food Storage, essential foods. The ARAS method for complex decision problems Trying to simplify an appropriate indicator (degree of application) "excellent" Through alternate exams It is in between alternative and the best solution Reflects difference and is different Eliminates the influence of units of measurement. The additive ratio assessment ARAS method for complex decision problems tries to simplify and for alternatives that can reflect the difference between by the corresponding indicator (degree of use). Selects the "best" alternative. Nutra Leaseanola Active Oil, Nanotea, Tip Top bread, Nanoceuticals Slim Shake, Nano silver cutting board, Fresher Longer T, M and Evaluation Parameters Food and beverage, Beverage, Food, Health drink, Food contact material, Food storage are also reviewed. Fresher Longer TM is showing the highest value of rank whereas Nano tea is showing the lowest value.

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