ILSI-India Annual Meeting & Seminar on Value Addition to Agriculture through Food Processing
26 April, 2019, New Delhi

- Presentations of Conference on Role of Probiotics in Promoting Healthy Microbiome for Health and Immunity, December 6, 2018, New Delhi.

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ILSI-India 2018 Publications
- Monograph On Prebiotics In Foods And Their Beneficial Effects
- Compendium Of Conference On Role Of Probiotics In Promoting Healthy Microbiome For Health And Immunity
- Compendium Of Seminar On Food Additives: A Global Perspective On Safety Evaluation And Use
- Report Of Seminar On Recent Developments In Food Science And Technology For Better Nutrition
- Report Of Workshop On Alternatives To Animal Testing For Food Safety
- 2017-18 ILSI India Activity Report
**Nutrition And Health Research**

**Daily Intake Of Nutritional Supplements Cannot Prevent Depression**

MooDFOOD, the largest randomized clinical trial to study the effects of nutritional strategies on the prevention of major depressive disorder concludes that daily intake of nutritional supplements cannot prevent depression. The nutritional supplements studied included folic acid, vitamin D, zinc and selenium. Therapeutic sessions aimed at making changes towards a healthy dietary behaviour did not convincingly prevent depression also.

Over 1000 participants who were overweight or had obesity and were identified as being at elevated risk for depression but who were not currently depressed, from four European countries - the Netherlands, the United Kingdom, Germany and Spain, took part in the study.

Source: Mariska Bot, Amsterdam UMC, Journal Of The American Medical Association (JAMA)

**Bedtime Protein For Bigger Gains?**

Drinking a casein shake just before overnight sleep increases gains in muscle mass and strength in response to resistance exercise. No study had directly addressed whether this effect is due to increased total protein intake only or if a bedtime beverage is better.

A new study shows that the protein-before-bed significantly increases muscle strength and size compared to carb. In the 8-week morning vs. evening casein study, the additional consumption of protein calories did not result in any increase in fat mass despite the fact that exercise volume did not change. However, the researchers caution that these results should be interpreted with caution due to the low number of volunteers (44) included in the study.

Source: Dr. Tim Snijders, Assistant Professor, Maastricht University. Frontiers In Nutrition, 2019

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**Appointment**

**Dr. Saumya Swaminathan Named Chief Scientist At WHO**

Dr. Soumya Swaminathan, a Deputy Director-General of the World Health Organisation has been named Chief Scientist of the WHO. As Deputy Director-General Programmes (DDP), Dr. Swaminathan was one of the three DDGs assisting WHO Director-General Tedros Adhanom Ghebreyesus.

The new division is being seen as the fifth pillar to strengthen the WHO’s core scientific work, ensure quality and consistency of norms and standards. To spearhead the digital work, WHO is creating a new Department of Digital Health, in the Division of the Chief Scientist. This department will enhance WHO’s role in assessing digital technologies, and support countries to make decisions about how to prioritise, integrate and regulate them.

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**Low-Carb Diet Tied To Common Heart Rhythm Disorder**

Low-carb diets are all the rage, but can cutting carbohydrates spell trouble for the heart? People getting a low proportion of their daily calories from carbohydrates such as grains, fruits and starchy vegetables are significantly more likely to develop atrial fibrillation (AFib), the most common heart rhythm disorder, according to a study being presented at the American College of Cardiology’s 68th Annual Scientific Session.

The study, which analyzed the health records of nearly 14,000 people spanning more than two decades, is the first and largest to assess the relationship between carbohydrate intake and AFib. With AFib, a type of arrhythmia, the heart doesn’t always beat or keep pace the way it should, which can lead to palpitations, dizziness and fatigue. People with AFib are five times more likely to have a stroke than people without the condition. It can also lead to heart failure.

The study showed that people with low carbohydrate intakes were 18 percent more likely to develop AFib than those with moderate carbohydrate intake and 16 percent more likely to develop AFib than those with high carbohydrate intake.

The researchers say that while the research shows an association, it cannot prove cause and effect. A randomized controlled trial would be needed to confirm the relationship between carbohydrate intake and AFib and assess the effect in a more ethnically diverse population.

Source: Xiaodong Zhuang, MD, PhD, Cardiologist, Sun Yat-Sen University, Guangzhou, China, American College Of Cardiology

**Mediterranean Diet Boosts Endurance Exercise Within Days**

Researchers have found that eating a Mediterranean diet can improve athletes’ endurance exercise performance after just four days. In a study investigators found that participants ran a 5K six percent faster after eating a Mediterranean diet than after eating a Western diet. Researchers found no difference between the two diets in performance in anaerobic exercise tests. The Mediterranean diet includes whole fruits and vegetables, nuts, olive oil and whole grains, and avoids red and processed meats, dairy, trans and saturated fats and refined sugars.

By comparison, the Western diet is characterized by low intake of fruit, vegetables and unrefined or minimally processed oils and high intakes of trans and saturated fats, dairy, refined sugars, refined and highly processed vegetable oils, sodium and processed foods. The Mediterranean diet is well-established as having numerous health benefits. Researchers hypothesized that the diet’s anti-inflammatory and antioxidant effects, more alkaline pH and dietary nitrates might lead to improved exercise performance.

Source: Edward Weiss, Ph.D., Professor, Nutrition And Dietetics, Saint Louis University, Journal Of The American College Of Nutrition, 2019; 1 DOI: 10.1080/07315724.2019.1568322
Food Groups And Risk Of Overweight, Obesity, And Weight Gain: A Systematic Review And Dose-Response Meta-Analysis Of Prospective Studies

This meta-analysis summarizes the evidence of a prospective association between the intake of foods [whole grains, refined grains, vegetables, fruit, nuts, legumes, eggs, dairy, fish, red meat, processed meat, and sugar-sweetened beverages (SSBs)] and risk of general overweight/obesity, abdominal obesity, and weight gain. RRs and 95% CIs were estimated from 43 reports for the highest compared with the lowest intake categories, as well as for linear and nonlinear relations focusing on each outcome separately: overweight/obesity, abdominal obesity, and weight gain.

In the dose-response meta-analysis, inverse associations were found for whole-grain (RRoverweight/obesity: 0.93; 95% CI: 0.89, 0.96), fruit (RRoverweight/obesity: 0.93; 95% CI: 0.86, 1.00; RRweight gain: 0.91; 95% CI: 0.86, 0.97), nut (RRabdominal obesity: 0.42; 95% CI: 0.31, 0.57), legume (RRoverweight/obesity: 0.88; 95% CI: 0.84, 0.93), and fish (RRabdominal obesity: 0.83; 95% CI: 0.71, 0.97) consumption and positive associations were found for refined grains (RRoverweight/obesity: 1.05; 95% CI: 1.00, 1.10), red meat (RRabdominal obesity: 1.10; 95% CI: 1.04, 1.16; RRweight gain: 1.14; 95% CI: 1.03, 1.26), and SSBs (RRoverweight/obesity: 1.05; 95% CI: 1.00, 1.11; RRabdominal obesity: 1.12; 95% CI: 1.04, 1.20). The dose-response meta-analytical findings provided very low to low quality of evidence that certain food groups have an impact on different measurements of adiposity risk. To improve the quality of evidence, better-designed observational studies, inclusion of intervention trials, and use of novel statistical methods (e.g., substitution analyses or network meta-analyses) are needed.


Carrots, Rice May Reverse Alzheimer's Symptoms

Comounds found in green tea, carrots and rice have helped reverse Alzheimer’s-like symptoms in mice genetically programmed to develop the neurodegenerative disease.

The study was carried out in mice, and many mouse discoveries never translate into human treatments, researchers noted. However, the findings lend credence to the idea that certain readily available, plant-based supplements might offer protection against dementia in humans.

The study supports the idea that combination therapy, rather than a single magic bullet, may offer the best approach to treating people living with Alzheimer’s.

Source: Terrence Town, Professor, University Of Southern California (USC), US, Journal Of Biological Chemistry

How Yo-Yo Dieting Impacts Women’s Heart Health

New research reveals worrying associations between yo-yo dieting and seven well-established markers of cardiovascular health. Up to 80 percent of people who manage to lose more than 10 percent of their body weight ends up regaining the weight within a year.

Losing weight for a short period and then regaining it bears the name of yo-yo dieting, which some people refer to as “weight cycling.” Previous research has pointed out the potentially damaging effects of these repeated cycles of weight loss and weight gain.

Some studies have suggested that yo-yo dieting raises the risk of mortality from any cause, while others have pointed to an increased risk of death from heart disease in particular. Another study suggested that yo-yo dieting can lead to a cardio-metabolic “roller coaster” in which cardiovascular health remarkably improves with just a few weeks of healthy dieting, but the negative cardiovascular effects are immediate once the individual abandons the diet.

Source: Dr. Brooke Aggarwal, Assistant Professor, Columbia University Vagelos College Of Physicians And Surgeons, New York, American Heart Association

Fasting-Mimicking Diet Holds Promise For Treating People With Inflammatory Bowel Disease

Fasting-mimicking diet holds promise for treating people with inflammatory bowel disease, a new study finds. A clinical trial shows reduction of inflammation in humans and mice, the diet appears to reverse Crohn's and colitis pathology.

Source: Valter Longo, Director, USC Longevity Institute, The USC Leonard Davis School Of Gerontology, Cell Reports

Turn Off The TV And Eat A Good Breakfast For Healthy Heart

People who spend less time watching TV and regularly eat an energy-rich breakfast may have a lower risk of developing heart disease or suffering a stroke. The study found that people who watched TV for less time and ate a healthy breakfast showed significantly less plaque and stiffness in their arteries. It underscores heart benefits of lifestyles with balanced eating and less sedentary time.

Environmental and lifestyle factors are important but underestimated risk factors for cardiovascular diseases. The results emphasise the importance of avoiding prolonged periods of sedentary behaviour.

Source: Sotirios Tsalamandris, MD, Cardiologist, First Cardiology Clinic, National And Kapodistrian University Of Athens, Greece, American College Of Cardiology
Dietary Reference Intakes For Sodium And Potassium

As essential nutrients, sodium and potassium contribute to the fundamentals of physiology and pathology of human health and disease. In clinical settings, these are two important blood electrolytes, are frequently measured and influence care decisions. Yet, blood electrolyte concentrations are usually not influenced by dietary intake, as kidney and hormone systems carefully regulate blood values. Over the years, increasing evidence suggests that sodium and potassium intake patterns of children and adults influence long-term population health mostly through complex relationships among dietary intake, blood pressure and cardiovascular health.

The public health importance of understanding these relationships, based upon the best available evidence and establishing recommendations to support the development of population clinical practice guidelines and medical care of patients is clear. This report reviews evidence on the relationship between sodium and potassium intake and indicators of adequacy, toxicity, and chronic disease. It updates the Dietary Reference Intakes (DRIs) using an expanded DRI model that includes consideration of chronic disease endpoints, and outlines research gaps to address the uncertainties identified in the process of deriving the reference values and evaluating public health implications. This report reaffirms the sodium AI for individuals ages 14-50, decreases the sodium AIs for children age 1-13, increases the sodium AIs for adults ages 51 and older, and decreases the potassium AIs for individuals age 1 and older.


‘MIND Diet’ May Help In Reducing Dementia Risk

A diet designed for brain health may reduce the risk of developing cognitive impairment and disorders including Alzheimer’s disease and dementia. The study reviewed the potential protective effects of the Mediterranean-DASH Intervention for Neurodegenerative Delay diet, also known as the MIND diet.

The MIND diet is characterised by 15 dietary components with a focus on green leafy vegetables, whole grains, olive oil and small amounts of red meat. The Mediterranean diet is believed to have a protective effect in other health settings, such as cardiovascular diseases, said researchers from University of New South Wales (UNSW) in Australia.

Source: Professor Kaarin Anstey, UNSW Ageing Futures Institute, Journal Alzheimer’s & Dementia

Moderate Alcohol Consumption Linked With High Blood Pressure

A study of more than 17,000 US adults shows that moderate alcohol consumption -- seven to 13 drinks per week -- substantially raises one’s risk of high blood pressure, or hypertension, according to new research.

Source: Amer Aladin, MD, Cardiology Fellow, Wake Forest Baptist Health, American College Of Cardiology

New Evidence Should Inform WHO Guidelines On Multiple Micronutrient Supplementation In Pregnancy

Recent data from an individual patient data (IPD) meta-analysis of 17 randomized control trials including >100,000 women living in low- and middle-income countries found that multiple micronutrient supplementation (MMS) in pregnancy reduced the risk of low birth weight, preterm birth, and being born small for gestational age. Further, MMS reduced the risk of neonatal and infant mortality for females, and there was no evidence of increased risk among the 26 sub-groups examined.

The 2016 WHO antenatal care guidelines, which were released before the IPD meta-analysis, did not universally recommend MMS, noting: “There is some evidence of additional benefit … but there is also some evidence of risk.” The guidelines suggest that MMS may increase the risk of neonatal mortality based on an exploratory sub-group analysis of 6 randomized trials. However, researchers in IPD study identified several issues with this sub-group analysis. In this report researchers correct and update the sub-group analysis and show that there is no evidence that MMS increases the risk of neonatal mortality.

There is growing scientific consensus that MMS containing iron and folic acid (IFA) is superior to IFA alone. The WHO guidelines currently state that “policy-makers in populations with a high prevalence of nutritional deficiencies might consider the benefits of MMN [multiple micronutrients] supplements on maternal health to outweigh the disadvantages, and may choose to give MMN supplements that include iron and folic acid.” This equivocal guidance has created confusion about the best course of action for public health programs in low- and middle-income countries.

Source: Christopher R Sudfeld, Assistant Professor, Global Health And Nutrition Department Of Global Health And Population, Department Of Nutrition, Harvard T.H. Chan School Of Public Health, Journal Of Nutrition

FDA Details Safety Approach For Imported Foods

The U.S. Food and Drug Administration (FDA) has released its “Strategy for the Safety of Imported Food,” which outlines the agency’s comprehensive approach to helping ensure the safety of food imported into the United States. Currently, the United States imports about 15% of its overall food supply. More than 200 countries or territories and roughly 125,000 food facilities plus farms supply approximately 32% of the fresh vegetables, 55% of the fresh fruit, and 94% of the seafood that Americans consume annually. This increasingly globalized and complex marketplace has also placed new challenges on the U.S. food safety system.

Source: https://www.fda.gov/
A Systematic Review Of Plant-Conjugated Masked Mycotoxins: Occurrence, Toxicology, And Metabolism

Masked mycotoxins are biologically modified phase II metabolites formed by plant defense mechanisms through glucosylation catalyzed by uridine diphosphate – glucosyltransferases. High proportions of masked mycotoxins co-occurring with their parent forms in various cereal-based food and feedstuff could clearly increase total exposures and pose additional health risks to humans and animals. In contrast to the parent mycotoxins, the data on the toxicity of masked mycotoxins are still scarce, however, the poor existing information showed that masked mycotoxins generally exhibit significant in vitro and in vivo toxicities lower than those of their parent forms, especially for deoxynivalenol-3-glucoside, which is the only thoroughly investigated masked mycotoxin.

Although the lower toxicity level of masked mycotoxins, these are probably hydrolyzed into their free forms by intestinal microorganisms in the digestive tract of mammals and thus contribute to unpredicted toxicity. The metabolic characteristics of reported masked mycotoxins are species-specific. The most relevant animal model of human sensitivity, the pig, is most sensitive to masked mycotoxins. This review focuses on updates in the current knowledge on country-specific natural-occurrence data in global surveys, as well as in vitro and in vivo toxicology and metabolic investigations of masked mycotoxins.

Source: Crit Rev Food Sci Nutr. 2019

Aflatoxin B1: A Review On Metabolism, Toxicity, Occurrence In Food, Occupational Exposure, And Detoxification Methods

Aflatoxins are a class of carcinogenic mycotoxins produced by Aspergillus fungi and are known to contaminate a large portion of the world’s food supply. Aflatoxin B1 (AFB1) is the most potent of these compounds and has been well-characterized to lead to the development of hepatocellular carcinoma (HCC) in humans and animals. This review focuses on the metabolism of AFB1, including epoxidation and DNA adduction, as it concerns the initiation of cancer and the underlying mechanisms. The link between AFB1 consumption and HCC is also discussed including synergistic interactions with the hepatitis B virus. Toxic effects of AFB1, including growth suppression, malnutrition, and immunomodulation, are also covered.

This review also describes recent reports of AFB1 occurrence in global food supplies and exposures in occupational settings. Furthermore, a summary of recent detoxification methods is included to indicate the present state of the field in developing aflatoxin control methods. This information shows that AFB1 occurs frequently in food supplies at high concentrations, particularly in maize. Regarding detoxification methods, chemical control methods were the fastest methods that still retained high detoxification efficacy. The information presented here highlights the need to implement new and/or existing detoxification methods to reduce the global burden of AFB1 toxicity.

Non Communicable Diseases

**Diabetes: Could Muscle Strength Lower Risk?**

Recently, researchers have been looking into the effects of exercise on the risk of type 2 diabetes, asking what kind of physical activity might help decrease it the most.

Their findings —indicate that people with moderate muscle strength, maintained and consolidated through resistance exercise, may be at a considerably lower risk of type 2 diabetes. This effect, the scientists note, is independent of other factors such as cardiorespiratory fitness. They also point out that moderate muscle mass seems to be enough to provide this benefit — increasing it does not lower risk any further.

Researchers explain that the current findings suggest that even moderate resistance training can be beneficial in this respect. However, it is difficult to establish how much enough is. 

*Source: Duck-Chul Lee, Associate Professor, Iowa State University In Ames, University Of South Carolina, Columbia, The Pennington Biomedical Research Center, Baton Rouge, LA, Ochsner Clinical School, University Of Queensland School Of Medicine, Brisbane, Australia, Journal Mayo Clinic Proceedings*

**Blood Holds Key To Liver Regeneration**

The liver is the only organ in the body that can regenerate. A recent study shows that the blood-clotting protein fibrinogen may hold the key as to why some patients who undergo a liver resection, a surgery that removes a diseased portion of the organ, end up needing a transplant because the renewal process doesn’t work.

Researchers discovered that fibrinogen accumulates within the remaining liver quickly after surgery and tells platelets to act as first responders, triggering the earliest phase of regeneration. But if fibrinogen or platelets are inhibited, then regeneration is delayed.

Platelets are blood cells that help form clots and stop bleeding. When they receive information from fibrinogen, they go into action and accumulate in the remaining part of the liver to help restore it, increasing the chances of a fully functional liver and successful recovery.

Using samples from patients undergoing liver resection and a comparable model in mice, researchers noticed that when fibrinogen was low, the number of platelets in the liver decreased.

*Source: James Luyendyk, Michigan State University, Journal Blood*

**Lipid-Filled Particle May Work With Immune System To Keep Fat Healthy**

Researchers have discovered, in a study on mice, that fat tissue releases a lipid-filled particle that has a role in immune function and metabolism. The researchers will now investigate whether these lipid particles appear in humans and, if so, whether they contribute to lipids we measure in the circulation and in metabolic diseases.

*Source: Anthony Ferrante Jr., MD, PhD, Tilden-Weger-Bieler Professor Of Preventative Medicine, Columbia University Vagelos College Of Physicians And Surgeons, Science, 2019*

**Vascular Risk Factors Tied To Brain Health**

New research uncovers a host of vascular risk factors that may affect the health of brains as people get older.

The news study examines the role of vascular risk factors, such as smoking, hypertension, or obesity, may play in brain health.

*Source: Dr. Simon Cox, Research Associate, Centre For Cognitive Ageing And Cognitive Epidemiology, University Of Edinburgh, United Kingdom, European Heart Journal*

**Physical Activity And Lifestyle**

**Television Viewing May Lead To Cognitive Decline In Older Age**

While studies have earlier established the link between decline in focus, memory and concentration levels in children due to watching television, a recent study has found that senior citizens or older people who spent at least 3.5 hours per day watching TV experienced a significant decline in verbal memory.

*Source: Dr. Daisy Fancourt, Department Of Behavioural Science And Health, University College London, United Kingdom, Journal Scientific Reports*

**Napping May Be As Good As Drugs For Lowering Blood Pressure**

A new study suggests that taking a nap at midday can effectively help people lower their blood pressure levels. Midday sleep appears to lower blood pressure levels at the same magnitude as other lifestyle changes. For example, salt and alcohol reduction can bring blood pressure levels down by 3 to 5 [millimeters of mercury (mmHg)].

*Source: Dr. Manolis Kallistratos, Asklepieion General Hospital, Voula, Greece, American College Of Cardiology’s 68th Annual Scientific Session*

**Sleep Loss Can Turn Us Into Social Outcasts**

Sleep deprivation can contribute to a host of mental and physical problems, including depression, diabetes, and impaired cognitive functioning. Researchers have now linked sleep deprivation to another effect: social isolation. According to the study’s humans are a social species. Yet sleep deprivation can turn us into social lepers. The findings indicate that, on the one hand, people who have experienced sleep loss are less eager to interact with others. On the other hand, the results also show that people who are sleep-deprived tend to come across as socially unappealing.

*Source: Prof. Matthew Walker, University Of California (UC), Berkeley, Journal Nature Communications*
Agriculture & Climate Change

Benefits Of Genome-Edited Crops

A paper examines the results of an expert survey on the added potential benefits of genome-edited crops compared to those developed through genetic modification (GM) and conventional breeding. Over the past three decades, agricultural biotechnology research has extended beyond input-trait genetically modified (GM) products and expanded into the commercialization of output-trait GM products. This development is due in part to a number of emerging new breeding techniques (NBTs), such as genome editing. Unlike complex, imprecise, and lengthy conventional (CONV) breeding, genome editing led by CRISPR has the potential to accelerate crop improvement and food production.

Overall, survey results reveal a consensus among experts on the enhanced agronomic performance and product quality of genome-edited crops over alternatives. The majority of experts indicated that the regulations for health and safety, followed by export markets, consumers, and the media play a major role in determining where and how NBTs, including genome editing, will be developed and used in agriculture.

Source: Transgenic Research

Meeting Of Codex Committee On Spices And Culinary Herbs

Noting that advanced practices with an eye on global standards were key to ensure success in the global market, Kerala Governor P Sathasivam said that farmers be encouraged to think globally and make use of the latest farming technologies. Inaugurating the fourth session of Codex Committee on Spices and Culinary Herbs (CCSCH) established under Commission (CAC) at Kovalam on March 9, Sathasivam said it was important to help Indian farmers by providing better storage facilities, which in turn would facilitate consistent supply for value addition. Union minister for commerce and industry Suresh Prabhu wished success to the five-day meet through video conferencing. He said with the implementation of agriculture export policy, much significance has been given to promotion of organic spices’ exports. Delivering the keynote address, Rita Thaotia, chairman of Food Safety and Standards Authority of India (FSSAI), noted that CCSCH, in previous sessions, succeeded in getting approval of Codex Alimentarius Commission for three standards: black, white and green pepper, cumin and thyme.

Source: https://www.fssai.gov.in

Scientists Identify Source Of Citrus’ Sour Taste

A team of researchers has identified the genes responsible for the hallmark sour taste of many citrus fruits. The research could help plant breeders develop new, sweeter varieties.

By studying the expression of genes related to those controlling acidity in petunias, the scientists identified two citrus genes, CitPH1 and CitPH5 that are highly expressed in sour varieties and weakly expressed in sweet-tasting varieties. The CitPH1 and CitPH5 genes encode transporter proteins that pump hydrogen ions into the vacuole, a large storage compartment inside juice cells, thus increasing their overall acidity.

Next, the team turned its attention to genes that control the levels of CitPH1 and CitPH5 in juice cells. While down-regulation of CitPH1 and CitPH5 in sweeter tasting varieties arose multiple times independently in different varieties, the researchers found that mutations in genes for a handful of transcription factors (proteins that help turn specific genes on and off) were responsible for reduced expression of CitPH1 and CitPH5, and therefore a sweeter taste.

Source: Ronald Koes, University Of Amsterdam, Netherlands, Nature Communications

Indian, Chinese Consumers May Be More Open To Meat Alternatives Than Americans

Recent years have seen increasing interest in research on consumer acceptance of clean meat. Some consumers are enthusiastic about the prospect of reducing the health risks, environmental harms, and animal welfare implications associated with conventional meat production, while others have concerns about the product’s taste, price, safety, and naturalness. A study suggests that consumers in India and China may be more accepting of clean meat and plant-based meat than consumers in the United States.

Source: Frontiers In Sustainable Food Systems

Misunderstanding Food Date Labels Linked With Higher Food Discards

A new survey examining U.S. consumer attitudes and behaviors related to food date labels found widespread confusion, leading to unnecessary discards, increased waste, and food safety risks.

The study comes at a time of heightened awareness of food waste and food safety among both consumers and policymakers. Among survey participants, the research found that 84% discarded food near the package date “at least occasionally” and 37% reported that they “always” or “usually” discard food near the package date.

Notably, participants aged 18-34 were particularly likely to rely on label dates to discard food. More than half of participants incorrectly thought that date labeling was federally regulated or reported being unsure. In addition, the study found that those perceiving labels as reflecting safety and those who thought labels were federally regulated were more willing to discard food.

Source: Johns Hopkins Center For A Livable Future (CLF), Johns Hopkins Bloomberg School Of Public Health, Journal Waste Management

Thirty Years Of Fast Food: Greater Variety, But More Salt, Larger Portions, And Added Calories

An analysis of the offerings at 10 of the most popular US fast-food restaurants in 1986, 1991, and 2016, demonstrates that fast-food entrees, sides, and desserts increased significantly in calories and sodium and entrees and desserts in portion size over time. It also shows that while the variety of entree, sides, and dessert options soared by 226 percent, new or discontinued items tended to be less healthy than those available throughout the study period.

Source: Megan A. McCrory, PhD, Department Of Health Sciences, Sargent College, Boston University, Boston, MA, Journal Of The Academy Of Nutrition And Dietetics
People living in India experience the health problems associated with ageing at an early stage than those living in Japan or Switzerland. Researchers found that a 30-year gap separates countries with the highest and lowest ages at which people experience the health problems of a 65-year-old. They found 76-year-olds in Japan and Switzerland, and 46-year-olds in Papua New Guinea have the same level of age-related health problems as an “average” person aged 65.

The analysis also found that people living in India experience the similar health problems well before they turn 60. These disparate findings show that increased life expectancy at older ages can either be an opportunity or a threat to the overall welfare of populations, depending on the ageing-related health problems the population experiences regardless of chronological age.

Source: Angela Y Chang, Postdoctoral Fellow, University Of Washington, US The Lancet Public Health

The drought conditions prevailing in Maharashtra and Karnataka seem to have had adversely affected coarse cereals and pulses cultivation. The total sown area under the current rabi crops came down significantly by almost 30 lakh hectares (lh) to 604 lh with the area under wheat and rice shrinking by almost 10 lh each. According to the 4th advanced estimates of 2017-18, the total rabi area last year was 628.25 lh.

The drought conditions prevailing in Maharashtra and Karnataka seem to have also adversely affected coarse cereals and pulses cultivation. While the coarse cereals cultivation is down by 14.5 percent that of pulses is lower by 5.2 per cent as compared to the corresponding period last year.

The area under jowar cultivation is 24.54 lh, which is 20 per cent lower than 30.65 lh planted in 2017-18. Maize, on the other hand, is planted on an area of 15.87 lh, which is 14.2 per cent less than 18.49 lh covered in last year. Barley cultivation, however, has picked up momentum with acreage touching 7.25 lh, about 9.5 per cent more than 6.6 lh covered in same period last year.

Substantial reduction in gram cultivation in Maharashtra will seriously dent the production this year. As against 105.61 lh sown in 2017-18, the gram acreage in this rabi season is 96.75 lh. Urad and moong planting too are down by 3 per cent each to 9.14 lh and 9.42 lh respectively. Lentil cultivation too is down by 3.8 per cent to 14.95 lh as compared to 15.54 lh in 2017-18.

Oilseeds are probably the only crop which has reported a higher acreage as compared to last rabi season. The increase is mainly due to a 4.7 per cent uptick in mustard cultivation. Mustard/rapeseed cultivation in Rajasthan has helped mustard to cross 62 lh. The total area under oilseeds is over 75 lh, which is 3 per cent more than the area sown in the last rabi season.

Source: Business Line 8 March, 2019
Research Projects / Monographs

- Monograph Of Role Of Probiotics In Promoting Healthy Microbiome For Health And Immunity - Ongoing
- Assessment Of Sugar Consumption Levels Among Rural And Urban Population In India - Ongoing
- Assessment Of Fat / Saturated Fat Consumption Levels Among Rural And Urban Population In India - Ongoing
- Monograph On Risk Assessment - Ongoing
- Study On Healthy Foods and Healthy Diets - Ongoing
- Standardization of Methodologies for Research on Microbiome – Under Discussion

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Nutrition Reviews Of ILSI

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Nutrition Science ↔ Policy
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Identification of a Surrogate to Validate Irradiation Processing of Selected Spices
LWT - Food Science and Technology, 2018 - ILSI North America
This study was conducted to determine the relationship between the populations of inoculated E. faecium and S. enterica after irradiation processing of selected spices.

Dinâmica da Composição do Leite Humano e Suas Implicações Clínicas
2018 - ILSI Brasil
Volume 8 da Série de Publicações ILSI Brasil: Nutrição da Criança
Analyzing chemical substitution decisions among chemical and product manufacturers
Clean Technologies and Environmental Policy, 2018 - Health and Environmental Sciences Institute
The HESI Sustainable Alternatives Committee completed a study to understand potential tradeoffs concerning final product design and redesign decisions using a set of six factors affecting product design: business strategy, economic considerations, functionality and performance, health/environmental endpoints, public perception, and regulatory factors. The results are published here.

Mineral Intake Ratios Are a Weak but Significant Factor in Blood Pressure Variability in US Adults
The Journal of Nutrition, 2018 - ILSI North America
Higher intakes of potassium, calcium, and magnesium and lower intakes of sodium have been associated with a lower risk of hypertension and cardiovascular disease. In this study, the associations of mineral intake and mineral-sodium intake ratios with blood pressure were investigated.