

Dr. R.S. Sodhi, MD, GCMMF Elected as President of IDA



Dr. R.S. Sodhi, Managing Director, GCMMF has been elected as the next President of Indian Dairy Association (IDA) – dairy industry's apex body in the country. Dr. Sodhi is the first dairy professional from the federation and second from

Gujarat's dairy sector to be elected as President of IDA.

In a CEC meeting held on August 13, 2022 after election, newly elected CEC team under the leadership of Dr. R.S. Sodhi took charge from the outgoing committee headed by Dr. G.S. Rajorhia at the formal hand over and take over ceremony.

Before Dr. Sodhi, late Dr. Verghese Kurien, Father of India's White Revolution, had served as the President of IDA between 1964-65. He was then working with the Amul Dairy. Speaking after the announcement of election results, Dr. Sodhi said, "It is an honour for me to represent the IDA because Dr. Kurien, my mentor, held the

same position in 1964 and now I have got the opportunity to lead IDA after 58 years." He further said that as far as dairy industry is concerned it is 'Atmanirbhar' (self sufficient) and has the potential to become "dairy to the world".

Other office bearers and members elected are: **Vice Presidents:** Mr. Ajay Kumar Khosla and Mr. Arun Patil; **Member General Category:** Dr. Geeta Patel, Mr. C.P. Charles, Mr. Anil Barman and Mr. Rajesh Gajanan Lele; **Member (Research Worker and Educationist) Category:** Dr. Bimlesh Mann and Dr. Bikash Chandra Ghosh; **Member (Professional and Planners) Category:** Mr. Sanjeev Sinha and Dr. B.V.K. Reddy;



Joint Meeting of Incoming and Outgoing CEC Members in Progress

CEC Members also Joined the Meeting through Online



Member (Milk Producers) Category: Mr. Ram Chandra Choudhary and Mr. Chetan Arun Narake and **Member (Dairy Industry) Category:** M/s Everest Instruments Pvt. Ltd. and Mr. Amardeep Singh Chadha.

It was the first time that the IDA CEC election held online in end-to-end mode. The whole process of election took approximately one month time. Members appreciated the Election committee members for organizing the election in record time with minimum election expenditure. Online Election software was developed by ICAR-Indian Agricultural Statistics Research Institute (IASRI) under the leadership of Dr. Sudeep Marwah, Principal Scientist, Computer Division of the institute. This software will remain with



IDA Staff Members with newly elected President of IDA.

Also seen in the picture, the outgoing President-IDA.

IDA for the next one year as per the contract with the institute.

Outreach Programme on Farmers' Day (Chingam 1)

Kerala State Chapter of IDA in association with Verghese Kurien Institute of Dairy and Food Technology (VKIDFT), Kerala Veterinary and Animal Sciences University and Dairy Development Department, Govt. of Kerala organized a one day interactive session on August 17, 2022 in connection with Farmers day celebrated on the first day of Malayalam year beginning (Chingam 1).



The programme was organized at Cherumkuzhy Milk Cooperative Society and about 40 farmers participated in it. Adv. Renjith, Vice President Nadathara Grama Panchayat inaugurated the programme. Sri George, President of the society presided over the function. The Keynote address was delivered by Dr. S.N. Rajakumar, Dean, VKIDFT and Dr. P.I. Geevarghese, Vice Chairman, IDA (SZ) distributed kits containing feed and

essential nutrition to the farmers during the inaugural session. The presentation on "Quality Improvement of Milk" was given by Dr. Indu B, Assistant Professor, Dairy Chemistry, VKIDFT whereas Ms. Divya K.B., Assistant Professor, Dairy Technology, VKIDFT deliberated on "Opportunities in Value Addition of Milk". The farmers interacted with the faculty members and the doubts raised by them were cleared.

Vote of thanks was given by the Smt. Nissi Vigeesh, Secretary of the society.

Kind Attention : IDA Members

Kindly update your contact details i.e. Address, Mobile no., Email-ID, etc., if any, so that we may serve you uninterruptedly. Please send us your updated details on the following Email ID: admin@indairyasso.org

AMUL TO ACQUIRE LAND IN RAJKOT AT ₹90 CRORE FOR MILK PROCESSING PLANT

Gujarat government has offered 114 acres of land to the Gujarat Cooperative Milk Marketing Federation (GCMMF) in Gadgha and Dhandhani villages on the outskirts of Rajkot city for around ₹90 crore for the latter's proposed milk processing plant for Saurashtra region.

"We think this is a fair offer and we will accept it. The actual amount of land may vary from these figures but cumulatively, the land will cost us between Rs 85 crore and Rs 90 crore," GCMMF Vice Chairman Mr. Valamji Humbal said.

The proposed plant will be the biggest in Saurashtra region and is aimed at meeting the milk processing requirement of district cooperative milk producers unions in Saurashtra and Kutch which are among 18 members of the GCMMF.

FONTERRA ADOPTING ELECTRIC MILK TANKER

Fonterra, New Zealand has taken step towards becoming a leader in sustainability by adopting first electric milk tanker.

The vehicle is "about" the same size as a regular tanker, has a range of approximately 140kms on a full charge and takes approximately three hours to charge. Furthermore, the company says the milk tanker will operate at 46T (gross vehicle mass) with the trailer and has a capacity to carry 28,000 litres.



NATIONAL news

NDRI Karnal: Taking Research to Farmers' Doorstep

Chairman, National Dairy Development Board (NDDB), Mr. Meenesh Shah has announced that the NDDB and the ICAR-National Dairy Research Institute (NDRI) would work together to take the research work to the farmers'



doorstep, so that they could get the benefits of the research work done by the NDRI scientists. He was chairing a Silver Jubilee programme of the Model Dairy plant, a part of the NDRI, which was established in 1997, with an aim to provide commercial dairy training to budding dairy scientists.

"NDRI does research work, and the NDDB does extension activities. We have jointly decided to work together so that all the research should reach to the field for quality breeding and enhancing milk production," said Mr. Shah.

While briefing the challenges in dairy sector, he said enhancing milk production of the milch animals was a major challenge, for which they were working. In India, average yield of milk of each animal is 5-6 kg per day, while it is 20-25 kg per day in other countries. It is necessary to enhance the milk production by improving genetic breeding, focusing on animal health care and ensuring good nutrition for animals.

On being asked about the lumpy skin disease (LSD), he said it was a viral disease and sufficient vaccine was available to protect animals from the disease.

Dr. Manmohan Singh Chauhan, Director, ICAR-NDRI, said they would provide all kind of support to the NDDB in all fields, so that suitable technologies for the farmers can be developed. We want the farmer community to know all kinds of dairy-related updates. The NDDB will also support us in taking the research to farmers.

Dr. Sodhi Dispels Fears about LSD

According to Dr. R.S. Sodhi, President-IDA and Managing Director, GCMMF, the lumpy skin disease (LSD) outbreak in cattle - in Gujarat and among other states - has had a marginal impact on milk production in Anand district of

Gujarat, with a dip of just 0.25 per cent in daily collection. The disease lasts for just a few days, and during the course of the disease the animal gets weak, because the cow would be eating less. Naturally, the production of the milk during those 10 to 12 days may reduce.

Lumpy Skin Disease Vaccine Released by DAHD Ministry



In a major breakthrough, the indigenous Lumpy Skin Disease (LSD) vaccine has been released by Union Agriculture Minister Mr. Narendra Singh Tomar and Union Fisheries, Animal Husbandry and Dairying Minister Mr. Parshottam Rupala at an event held in New Delhi.

ICAR-National Research Centre on Equines (ICAR-NRCE), Hisar (Haryana), in collaboration with ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, Uttar Pradesh has developed this homologous live-attenuated LSD vaccine called “Lumpi-ProVac”.

The Government is planning to commercialise this vaccine at the earliest in order to control the LSD, which has spread across six states in the last month. As of August 8, Rajasthan has reported 2,111 deaths of cattle, followed by Gujarat at 1,679, Punjab at 672, Himachal Pradesh at 38, Andaman & Nicobar at 29 and Uttarakhand at 26.

While addressing the event, Mr. Rupala complemented the ICAR scientists for the development of this indigenous vaccine, which would help in controlling LSD. He said, “We have got a solution for this deadly disease. Scientists were making efforts to develop this vaccine since the LSD disease was first reported in Odisha in 2019. Today, the technology has been launched and now we will move forward to ensure how this vaccine reaches farmers. There is a protocol for the commercialisation of vaccines and the animal husbandry department will see how it can be expedited.”

Dr. B.N. Tripathi, Deputy Director General (Animal Science), ICAR, said the two institutes can produce 2.5 lakh dosages per month at the cost of ₹1-2 per dose. The immunity induced by homologous live attenuated LSD vaccines usually persists for a minimum period of one year.

As per the information provided by ICAR, the scientists at NRCE isolated the virus in 2019 itself and were in a process of developing a live-attenuated vaccine since then. After initial safety and immunogenicity trials of the vaccine in laboratory animals at NRCE, Hisar, the experimental trials were conducted

IDF WORLD DAIRY SUMMIT 2022 8-16 September 2022

Delhi-NCR

IDF World Dairy Summit 2022 will be held during September 8-16, 2022 in Delhi-NCR at India Expo Centre Mart of the India Exposition Mart Limited (IEM), Greater Noida.

Business Meetings:

September 8-11, 2022

Conference and Exhibition:

September 12-15, 2022

Social and Technical Tours:

September 15-16, 2022.

For Registration:

wdsregistrations@idfwds2022.com

For Sponsorship:

wdssponsorship@idfwds2022.com

For Exhibition:

wdsexhibitor@idfwds2022.com

For Media:

wdsmedia@idfwds2022.com

For more information, visit

<https://idfwds2022.com>

DAIRY INDUSTRY EXPO 2022

October 12-14, 2022

Deccan College, Yerwada, Pune

An exclusive exposition for Dairy Farming and Processing Industry is being organized in Pune. Visit [https:// west.dairyindustryexpo.com](https://west.dairyindustryexpo.com)

INDIA AGRI PROGRESS EXPO 2023

January 20-22, 2023

Ludhiana Exhibition Centre

**G.T. Road, Sahnewal,
Ludhiana, Punjab**

Udan Media & Communications Pvt. Ltd. is organizing, managing the India Agri Progress Expo. It is an International Exhibition on Agriculture, Dairy & Poultry Industry, Solar system, etc. The event is the 3rd edition, scheduled to be held at Ludhiana Exhibition Centre, G.T. Road, Sahnewal, Ludhiana, Punjab.

For further information,

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in calves at IVRI, Mukteshwar. The safety of the vaccine has also been ascertained in the field in cattle and buffaloes of all age groups including lactating and pregnant ones. Based on the outcome of experimental and field trials, it can be concluded that the vaccine is safe and induces protective immunity in animals against LSD.

Health Stamp Must for Imports of Dairy and Fish Products

Imported consignments of milk, milk products, pork, fish and fish products will require health certificates issued by the competent authority of the exporting country. The certificates will be valid till 90 days from the date of issue.

The Central Board of Indirect Taxes and Customs (CBIC) has instructed its officials regarding the requirement of the health certificate with such food consignments. The development comes in the wake of a directive issued by the Food Safety and Standards Authority of India (FSSAI) on August 3 which made health certification mandatory for such imports.

The certificate will require a detailed declaration, including country of origin and export, expiry date and details of ingredients. The preservatives have to be as per limits prescribed by the FSSAI.

It is requested that necessary action may be taken to sensitize officers under any jurisdiction. The difficulties, if any, in the implementation of this instruction may be brought to the notice of the board, said the CBIC directive.

FSSAI Food Licensing is a form of certification that

ensures that food is fit for consumption and toxic elements are not present in it. Earlier, a veterinary certificate was required for milk and milk products and there was no standardised format. Experts said the move is in line with the government's policy of ensuring quality standards of goods imported into the country.



Record Increase in Dairy Export @ 67.15% in Q1 FY23

Continuing with the trend from the previous year, the exports of agricultural and processed food products rose by 31 per cent in the first three months of the current Financial Year 2022-23 (April-June) as compared to the corresponding period of FY 2021-22.

The export of meat, dairy and poultry products increased by 9.5 per cent and the export of other cereals recorded a growth of 29 per cent in Q1 of the current fiscal. The dairy products alone recorded a growth of 67.15 per cent as its export rose to USD 191 million in the first three months of the current fiscal from USD 114 million in the corresponding months of the previous year.

According to the provisional data released by the Directorate General of Commercial Intelligence and Statistics (DGCI&S), the overall export of APEDA products increased to USD 7408 million in April-June 2022 from USD 5663 million over the same period of the last fiscal. The export target for April-June 2022-23 was fixed at USD 5890 million.

Commenting on the increase in export, Dr. M Angamuthu, Chairman, APEDA, said, "We continue to provide technical and financial assistance to various stakeholders in the agricultural goods value chains for boosting exports of unique products from the country."

As per the DGCI&S data, the country's agricultural exports had grown by 19.92 per cent during 2021-22 to touch USD 50.21 billion. The growth rate is significant as it is over and above the growth of 17.66 per cent at USD 41.87 billion achieved in 2020-21 and has been achieved in spite of unprecedented logistical challenges in the form of high freight rates and container shortages.

OmeB (milk-fat modulator) Commercialized by ICAR

The ICAR-National Institute of Animal Nutrition and Physiology, Bengaluru commercialized the 'OmeB' product to M/s Gou Agritech (P) Limited on a non-exclusive basis through AgrInnovate India, recently.

The product 'OmeB' is developed by the NIANP through comprehensive research and validated for the milk fat modulation through field studies in dairy animals. 'OmeB' leads to a significant increase in the mono and polyunsaturated fatty acids. The product also improves the conjugated linoleic acids and omega fatty acids content of the milk. The institute has already filed a patent for 'OmeB' (No. 202211040737).

Dr. Raghavendra Bhatta, Director, ICAR-NIANP, Bengaluru and Mr. Shabarish C.N., Managing Director, M/s Gou Agritech (P) Limited signed the Memorandum of Agreement (MoA) on behalf of their respective organizations for the licensing to commercial manufacturing and sale.

Mr. Shabarish said with the commercialization of product, the livestock dairy farmers can fetch more income through the milk fat modulation. He also added that the product is highly economical and will help to improve the income of dairy farmers. Dr. Sudha Mysore, C.E.O., AgrInnovate India, New Delhi was also present on the occasion.



Reducing Carbon Footprint in Dairy Plants to Increase Operating Profits

Verghese Kurien Centre of Excellence (VKCoE) organized a management development programme (MDP) on "Reducing Carbon Footprint in Dairy Plants to Increase Operating Profits" during August 2-5, 2022 at IRMA. Seventeen dairy professionals from different milk unions of India participated in the programme.

The objective of this training programme was to help dairy professionals and decision makers in aligning their dairy operations with the best in the country to reduce carbon footprint.

During the four-day programme interactive sessions were held by resource persons from VKCoE, IRMA, Amul Dairy and NDDB. The programme was coordinated by the VKCoE Chairperson, Dr. J.B. Prajapati and Prof. Hitesh Bhatt.

Mr. Amit Vyas, Managing Director and Dr. Gopal Shukla from Amul Dairy along with Dr. Bhupendra Phondba from NDDB shared their

expertise for the benefit of the participants. Mr. Meenesh Shah, Chairman, NDDB interacted with the participants and encouraged the dairy industry to adopt measures to make carbon neutral dairy sector by 2050. Various sessions were focused by giving practical information on reducing GHG emissions at farm gate by adopting measures like breed selection, farm management, balanced feed and TMR, manure management, etc. At the processing plant, discussions were held with practical examples of energy savings, efficient processing, monitoring measures, water and waste water management, value added products, digitalization, etc.



Participants were taken to Amul dairy plant to personally observe the measures that helps in reducing carbon footprint. They visited a modern farm setup by Amul apart from Munjkuva village model on *gobar* (cow dung) management setup by NDDB. They also saw Sudhan, manure management plant at Vasna.

Field visits gave the participants a practical view of

modern and alternative technologies in reducing carbon footprint in production and processing related activities. Reducing carbon footprint of a dairy can help in improving the technical, financial, and operational efficiency and, thus, will lead to higher operating profits.

The training ended with a debriefing and feedback session from all the participants.

Dairy Farmers to Get ₹4 /ltr of Milk More till March 2023 in Kerala

Dairy farmers would be paid an additional ₹ 4 per litre of milk till March next year as part of a ₹ 28 crore project for them as it was not possible to increase price of milk in the state presently, Kerala Minister for Animal Husbandry and Dairy Development Mr. J Chinchurani said.

He further said that the additional amount was already being paid to them from July 1 onwards and would continue till March next year. The minister's

announcement came during distribution of compensation to farmers in the district whose pigs were culled after an outbreak of African swine fever there. The amount will be transferred to the farmers' bank account directly. The state government has already earmarked ₹ 28 crore for this project, prepared by the Dairy Development Department, and the funds would be available with the cooperation of local bodies.

An Initiative to Make Bhilwara People Avoid Single Use Plastics

Chhaganlal Bagtawarmal petrol pump located on Chittor Road, is encouraging people to shun single use plastics (SUPs). It is providing a discount of ₹1 on a litre of petrol and 50 paise off on a litre of diesel. In return, dispose empty milk pouches and plastic water bottles at a petrol pump in Rajasthan's Bhilwara.

"I am giving a rebate of ₹1 per litre on petrol and 50 paise per litre on diesel, if someone brings a milk pouch of one litre or two pouches of half a litre or a one litre water bottle. These pouches are collected at the petrol pump and will be given to Saras Dairy for disposal," Mr. Ashok Kumar Mundra, owner of the pump said.

This campaign was initiated to create awareness against the use of plastics and polythene. He further said that they wish to see Bhilwara as a polythene- and plastic-free city because it not only harms the environment but also poses a threat to stray animals, particularly cows. Saras Dairy, a dairy brand in Rajasthan has committed to dispose of the empty pouches collected at the petrol pump. So far nearly 700 milk pouches have been collected. Although the number is quite low, due to the monsoon season, the number of customers at the petrol pump is low, they are now planning to extend the campaign to six months.

At present, the pouches and bottles are being collected at Mundra's petrol pump and dumped at a nearby place owned by them. These are later handed over to the dairy.

Mr. Mundra said that he will ask Saras Dairy to start collecting empty pouches at its booths across the city and, in lieu of that, people will be given coupons which could be redeemed at the fuel pump within six months.

Mr. Vipin Sharma, MD, Bhilwara Dairy, a unit of Saras Dairy, said the scope of the campaign could be extended if Mr. Mundra proposes.

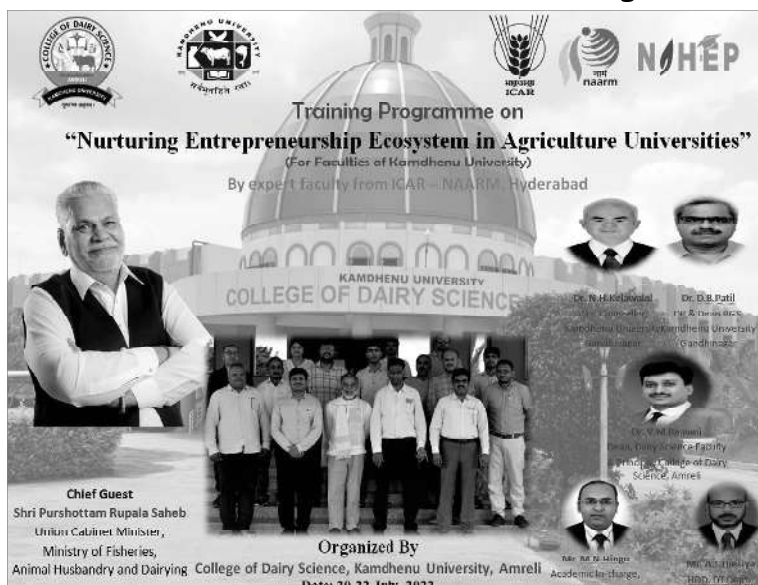


National Training Programme Organized by College of Dairy Science Kamdhenu University, Amreli

World Bank has funded the College of Dairy Science and Postgraduate Institute of Dairy Education and Research, Amreli, Kamdhenu University through Innovation grant of ₹490 lakh, for making it ready for accreditation under National Agricultural Higher Education Project (NAHEP) of Indian Council of Agricultural Research, New Delhi.

Under this project, College of Dairy Science, Kamdhenu University, Amreli had organized a National Training Programme on “Nurturing Entrepreneurship Ecosystem in Veterinary Universities” for faculties of Kamdhenu University in the collaboration with (ICAR)-National Academy of Agricultural Research Management (NAARM), Hyderabad during July 20-22, 2022.

Mr. Parshottam Rupala, Hon’ble Union Cabinet Minister of Fisheries, Animal Husbandry and Dairying, Government of India graced the inaugural session of this



training programme as its Chief Guest. He congratulated Dr. V.M. Ramani, Dean, Faculty of Dairy Science College for organizing such training programme.

During the inaugural training session Hon’ble Vice Chancellor of Kamdhenu University, Gandhinagar Dr. N.H. Kelawala; Director of Research, Kamdhenu University, Gandhinagar, Dr. D.B. Patil; and Principals of different

colleges of Kamdhenu University along with other university officials were present and shared their inspirational thoughts.

The aim of such training programme was to develop an understanding regarding the need and importance of Entrepreneurship in Veterinary, Dairy and Fisheries higher education and to learn the ways and means of entrepreneurial ecosystem development in Veterinary universities.

A Solution for Treating Biofilms



Belgium based company Realco has developed a product range made up of a specific cocktail of enzymes offering preventive and curative treatments of biofilms. It is claimed that this enzymatic cocktail directly hydrolyses the organic matrix of the biofilm, liberating the bacteria from their protective envelope. The enzymatic treatment is followed by a disinfection phase to eliminate the bacteria, which have become planktonic and therefore vulnerable to biocides. The disinfectant solution ensures optimum hygiene of production installations by fully acting on bacteria. The detection and removal of biofilm contamination may increase productivity, ensure product quality and extend its shelf life.

Hatsun to Increase Milk Collection in AP, Telangana and Maharashtra



Hatsun Agro Product Ltd. (HAP), has announced its plans to expand procurement in Andhra Pradesh, Telangana and Maharashtra. HAP has over 3,100 milk collection centres which benefit farmers across various villages in the three States. HAP plans to aggressively expand this network of milk collection centres in these States to effectively serve over 1 lakh farmers.

It plans to further position its milk collection centres at remote locations to ensure farmers have access to the facility and help them reap the benefit of having access to such a facility in their own village, thereby providing them with market access. HAP procures milk from quality cattle collected directly from around 4,00,000 farmers.

The company has invested in procurement infrastructure over the years to effectively handle a significant volume of milk.

Red Cow Dairy Opens Dairy Kiosk at Kolkata Metro

In a bid to facilitate commuters with standout and innovative amenities, Kolkata Metro has opened a dairy kiosk at its station premises. “As a part of that continuous endeavour, a cow milk kiosk has been installed at Baranagar Metro station on August 3, 2022. Principal Chief Operations Manager, Mr. Satyaki Nath, inaugurated this kiosk and dedicated it to the service of commuters,” said an official of Kolkata Metro. He reiterated that more such dairy kiosks will be opened at different stations along the North-South corridor in a phased manner very soon.

Kolkata Metro has provided M/s Red Cow Dairy Pvt. Ltd. – a Benefactor member of IDA, the required space in its premises to open kiosks at Baranagar, Sovabazar-Sutanuti, Netaji, Masterda Surya Sen and Kaji Nazrul Metro stations for selling its wide array of milk products.

The dairy kiosk will offer sale of different types of



milk products. These include milk, *ghee*, *dahi*, vacuum-packed *paneer*, evaporated milk, canned *Rasogolla*, canned *Gulab Jamun*, sterilised *paneer*, sterilised cream, flavoured milk, and skimmed milk powder.

INTERNATIONAL news

IDF World Dairy Summit 2022 is only a Few Weeks Away

International Dairy Federation (IDF) World Dairy Summit 2022, which will take place in New Delhi-NCR during September 12-15, 2022, is only a few weeks away from its opening. Dairy stakeholders from all over the world would participate, which is considered to be the most coveted event in the dairy sector worldwide.

Mr Piercristiano Brazzale, President of the International Dairy Federation (IDF), said “IDF WDS 2022 attracts the participation of dairy actors and experts from around the world, who will certainly contribute to IDF's purpose to connect and empower the global dairy sector to nourish the world with safe, nutritious, and sustainable dairy

and enhance IDF's mission of providing a science-based support to dairying".

Ms Caroline Emond, Director General of IDF, said that the "World Dairy Summit will be a great opportunity for dairy farmers, leaders, experts, scientists, professionals, journalists and academics to learn, connect and get inspired. India's success story will be shared with the world through the IDF World Dairy Summit where we can see how dairy an engine of development and women empowerment in India is".

Mr. Meenesh Shah, Chairman, National Dairy Development Board and the Member Secretary of the Indian National Committee of IDF, said that the Dairy sector is fundamental to boost the rural economy of India as it provides livelihood opportunities to about eight crore farmers. That is why, IDF World Dairy Summit 2022 is significant to the stakeholders in India. The developing countries may witness the uniqueness of Indian small holder dairying system that has made India the world's largest milk producing nation.

IDF and the International Federation of Agricultural Journalists (IFAJ) to collaborate for IDF WDS 2022

IDF and IFAJ are pleased to announce the signature of a collaboration agreement to support the participation of

a selected group of IFAJ member agricultural journalists and communicators in this exciting global dairy sector summit event.

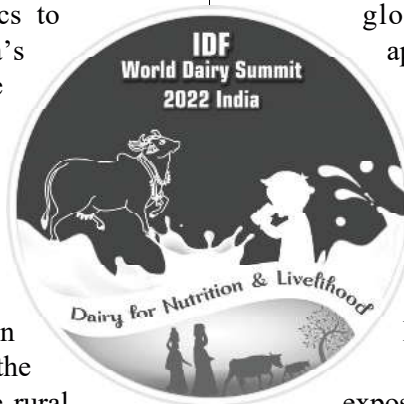
IDF World Dairy Summit

This summit is an annual meeting of the global dairy sector, bringing together approximately 1,500 participants from all over the world. The participants' profile includes CEOs and employees of dairy processing companies, dairy farmers, suppliers to the dairy industry, academicians and government representatives etc.

Key Features of IDF World Dairy Summit

WDS is a great way of gaining global exposure for the Indian dairy industry which will attract attention to the smallholder milk production system of India and raise awareness. Exhibition space of over 2,500 sq mt will be available to the exhibitors for showcasing activities. The registration process can be done through the event's website: <https://idfwd2022.com>. The IDF World Dairy Summit will provide a forum for the industry experts to share knowledge and ideas on how the sector can contribute to nourishing the world with safe and sustainable dairying.

For the full programme, please visit www.idfwd2022.com



Drinking More Dairy Milk may Improve Brain Health in Older Adults

The KU Medical Center research team, USA found that older adults who drink three cups of dairy milk a day can increase their brain's level of glutathione (GSH), a powerful antioxidant that helps protect the brain from some of the damage that accompanies aging and aging-related diseases. (The typical American adult over age 60 drinks less than two cups of milk per day, according to data from the Centers for Disease Control and Prevention.)

Just like an old car that rusts, the human brain becomes corroded over time by free radicals and other oxidants that are released as the brain converts nutrients into energy. This oxidative stress, as it's called, is believed to be a major mechanism of brain aging as well as many neurodegenerative

diseases including Alzheimer's and Parkinson's. GSH helps stave off oxidative stress and the damage it causes. But as people age, brain levels of GSH tend to fall.

"It's exciting that something as simple as drinking milk can increase GSH because it's not a drug, it's just a simple food," said Dr. Debra Sullivan, Ph.D., Professor and Chair of the Department of Dietetics and Nutrition in the School of Health Professions at KU Medical Center and an author on the study, which was published August 15 in *Frontiers in Nutrition*. And the three cups a day is actually what is recommended by the US Dietary Guidelines.

The study builds on work that Dr. Sullivan began over a decade ago with In-Young Choi, Ph.D., lead author on the study



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and Director of the Metabolic Imaging Unit and the Magnetic Resonance Science Program at the Hoglund Biomedical Imaging Center at KU Medical Center. Dr. Choi, who focuses on brain aging and neurodegeneration, had collaborated with Phil Lee, Ph.D., a Professor of the Department of Radiology, to develop a novel magnetic resonance imaging technique that can measure the level of antioxidants in the brain. These unique scans use special imaging techniques based on a multiple quantum physics concept and can selectively detect GSH in different parts of the brain simultaneously, Dr. Choi said.

The whey protein in milk has particularly high levels of cysteine, which is especially important for the body to make more of the antioxidant GSH. Milk is also rich in riboflavin and calcium, which are required for GSH maintenance.

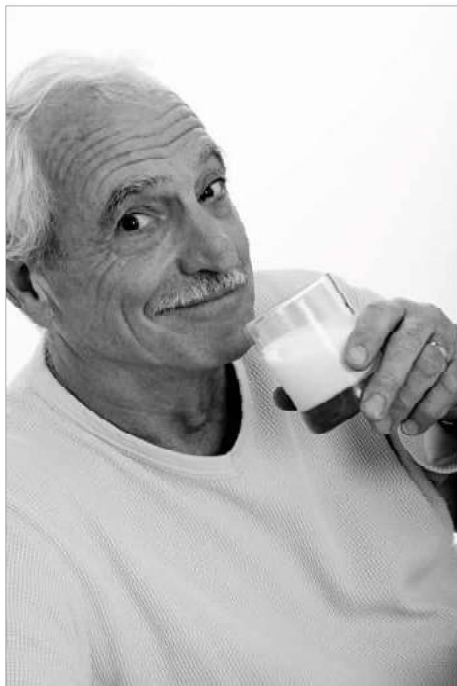
Dr. Sullivan approached Dr. Choi about collaborating and using her brain antioxidant scanning technique to measure how foods eaten affect their brain. When they completed their first exploratory study, they were surprised by the results.

"I was thinking fruits and vegetables would be highly correlated with antioxidants in the brain," remembered Dr. Choi. **But instead it was dairy, and among the dairy foods, it was milk. That was really surprising.**

The researchers then applied for and were awarded a grant from the National Dairy Council, which along with a National Institutes of Health (NIH) grant that funds the Hoglund Biomedical Imaging Center, supports their work. The funding agencies had no input on the study design, data, the interpretation of the data or the writing the manuscript, Sullivan said.

In 2015, Dr. Choi and Dr. Sullivan and their team published an observational study in the American Journal of Clinical Nutrition that again found that milk was highly correlated with concentrations of GSH in the brain of older adults. The next step, the current study, was designed to see what would happen to someone's brain if that person increased their milk consumption.

In this study, 73 adults aged between the ages of 60



and 89 who typically consumed less than 1.5 servings of dairy per day were randomly assigned into a control group, which did not alter its usual milk intake, and into an intervention group, which increased their milk intake to three cups per day for three months. The study provided the participants in the intervention group with low-fat 1% milk from regional Kansas City area grocery stores weekly. For both groups, brain antioxidant imaging scans were conducted at baseline and after three months.

While there was no change in the levels of GSH in the brains of the participants in the control group, the group that drank three cups of dairy milk a day saw their brain GSH levels

increase by an average of nearly 5% overall and by more than 7% in the parietal region of the brain.

Dr. Choi noted that earlier findings have shown that GSH levels are lower in older adults about 10%. "So, by drinking milk, it looks like you can catch up some," she said.

What remains to be discovered is the specific mechanisms by which milk increases levels of GSH in the brain. The researchers know this much: The GSH molecule is made of three amino acids—glycine, glutamate, and cysteine—and milk is a source of all three. Compared with other foods, the whey protein in milk has particularly high levels of cysteine, which is especially important for the body to make more GSH. Milk is also rich in riboflavin and calcium, which are required for GSH maintenance.

More research is needed to determine which of these factors are behind the increase in brain GSH levels. The researchers also plan to conduct a larger study as well as studies including cognitive tests to measure if milk is leading to measurable changes in brain function. They also want to determine if there is an optimal dose of milk and if the amount of milk fat matters.

In the meantime, Dr. Sullivan sees no reason to wait to make sure you're getting your three cups of milk each day. "It's important for your brain health, your bone health, your muscle health, all of those things," she said.

That's the takeaway of the research.