

# I N D I A N DAIRYMAN

THE SPIRIT OF THE DAIRY INDUSTRY

₹ 150 March 2018

## 46<sup>th</sup> Dairy Industry Conference



*Conference Special - I*



**Dairying — Sufficiency to Efficiency**



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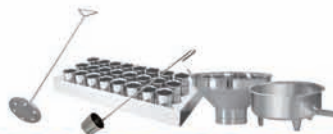
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THE SPIRIT OF THE INDIAN  
DAIRY INDUSTRY



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**INDIAN DAIRYMAN** is a specialist monthly magazine dedicated to the dissemination of the latest information, innovations and ideas on the dairy industry so that major players in this field are kept up-to-date. In this way, it acts as a communicator to the dairy industry.

The objective is to provide information service on research, developments and management - crucial factors that affect the dairy industry in the country. The editorial blends essential elements with practical advice to present a comprehensive outlook on all aspects of the industry. The periodical is, thus, a mouthpiece of the Indian Dairy Industry - by you, for you, and of you.

The periodical has become a reference point for anyone attached to this mushrooming industry and is the right medium to reach a focussed audience.

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Edited by Mrs. Seema Sahay



“  
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 population driven  
 dairying” in view of  
 shrinking natural  
 resources.**  
 ”

**T**he 46<sup>th</sup> Dairy Industry Conference held between 8<sup>th</sup> and 10<sup>th</sup> February, 2018 was a great success. Members of the South Zone of IDA and its Kerala State Chapter did a marvelous job of meticulous planning and implementation. Each activity of the Conference was aptly monitored like a successful project. About 2200 participants fully enjoyed the technical, cultural and hospitality components of the Conference.

A large number of recommendations that emerged from the technical presentations and discussions shall be published in the forthcoming issue of *Indian Dairyman*. It came out that dairying shall continue to be an instrument of economic and social transformation of small and marginal farmers and landless labourers in almost 7.5 lakh villages spread across India in diverse agro-climatic zones. This is especially true of areas where crop cultivation is limited due to lack of irrigation facilities and low rains. Nutritional security of the growing human population has always been a prime objective of dairying starting from milk production, collection, processing and distribution. Traditional wisdom of value addition has also been used to manage excess produce and to assure higher returns to milk producers.

In order to keep farmers’ interests intact in dairying,

remunerative prices for milk must be given together with maintenance of highly productive dairy animals having known economic traits. “Technology driven dairying” is a viable option against “animal population driven dairying” in view of shrinking natural resources. For faster multiplication of superior germplasm, there is a strong need for promoting multiple ovulation and embryo transplant or in vitro embryo production using sexed semen obtainable from all recognized breeds. It will be useful to establish elite germ plasm supply centres.

Gains in milk production should be achieved through higher output per animal or expanding herd size to match increasing demand for milk.

The time is ripe for not relying only on crop residue for feeding dairy animals but shift to production of high yielding fodder crops amenable to cut and carry system. Many safe and nutritious agro-industrial by-products, plantation crops and forest foliage can be easily fitted in animal feeding programmes for increasing milk production.

Dairy plants should adopt methods to minimize the costs of processing, packaging and marketing to make low cost milk and milk products available to the masses. It is recommended to use non-conventional energy sources at milk collection and chilling centres, adoption of cost





## FROM THE *President's* DESK


effective technologies in processing plants, and least expensive packaging and innovative marketing strategies. Deployment of solar power to operate electronic milk testers and automated milk collection units will be necessary for ensuring effective, efficient and transparent operations of automatic milk handling system and would bring greater happiness to rural milk producers. Safe milk production principles and practices can be implemented through extensive training of farmers and providing incentives.

Since a huge volume of milk is contributed by small holders, remunerative prices and prompt payment should be assured to maintain a robust supply chain. For raising income of farmers, there is a need for removing GST from milk products as well as from input supplies in order to promote sales in the market place.

Animal health programmes should be expanded using preventive and curative measures involving ethno-veterinary practices to overcome the problem of veterinary drug residues in milk and milk products.

Adoption of validated rapid test methods are now available for checking adulteration for field application. Dairy operators should be trained at all levels to prevent spurious milk gaining entry into the dairy value chain.

I hope the readers will enjoy going through the first volume of Conference events that appear in the current issue of *Indian Dairyman*.

  
-(G.S. Rajorhia)

FROM THE *President's* DESK





## Curtain Raiser Lecture

# Sufficiency to Efficiency: Sustaining Growth in the Indian Dairy Sector

By

**Dr. Ram P. Aneja**

*Patron and Past President, Indian Dairy Association  
& Former Managing Director, NDDB, Anand  
ramaneja@gmail.com*

### How did we achieve self-sufficiency?

India has done extremely well in expanding its dairy industry on a sound footing after a disastrous start in the fifties. It got out of its “planned” dairy sector through expanding its “Anand Model” which entailed marketing rurally produced milk through farmer-owned and managed dairy cooperatives. The National Dairy Development Board (NDDB) that was set up with this mandate did a splendid job in rescuing the milk producers from the clutches of middlemen who exploited them taking away any incentives to produce more milk.

The Government schemes for dairy development used massive quantity of cheap imported milk powder that kept the consumer prices low. This caused an anti-dairy development cycle leading to even bigger expansion of the Government schemes and killed any incentives for the farmers to produce more milk. Dr. Verghese Kurien, Father of White Revolution, rescued the milk producers from the stranglehold of the Government dairy schemes and gave control of the sector back to them. The Anand Pattern dairy cooperatives provided remunerative prices to milk producers even

during the flush season that led to increased milk production. The cooperatives then provided balanced cattle feed, veterinary and AI services at the village level that increased productivity of cattle making dairy farming a profitable business particularly for the small milk producers.

The theme of this conference is ‘Indian Dairying: Sufficiency to Efficiency’. I need to emphasize that in the first place sufficiency was achieved by improving efficiencies in milk production, procurement, processing and marketing through the Anand Pattern of Cooperative Dairying.

Efficiency, like beauty, is in the eyes of the beholder. If the beholder is the farmer, the efficiency of the dairy system lies in the producer getting the largest chunk of the consumer’s rupee. In India, we can be very proud that the milk producer gets as much as 70% of what the consumer pays. The much-touted food processing industry in India is paying only 50% of the Atta price to the farmers. An efficiency that not many milk producing nations have achieved — and we are not only the world’s largest but also the most efficient milk producer. We have increased milk production







from 20 million tons in the seventies to 164 million tons annually without any significant diversion of land or water from agricultural crops to milk.

Another way of looking at efficiency is to look at the lean: flush ratio of the farmer price. We all know what happens to tomatoes, potatoes and onions in the harvest season. The farmer prices can go down to 10-20% of the lean season price. In milk, the flush season price does not go below 90% of the lean season price and that is great efficiency. The seasonal and regional disparities in production and demand have been well evened out by an efficient milk grid that I have seen evolve from merely a desirable concept to a full-fledged system of buffer stocking and efficient movement of milk in all forms right across the country.

Milk has emerged as the least cost protective food, in a largely vegetarian country and that is well reflected in the Private Final Consumption Expenditure (PFCE) data (see Fig. 1).

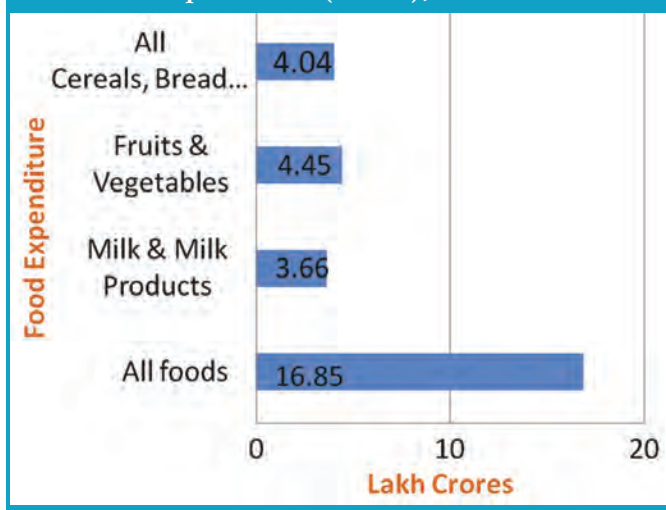
With increasing incomes, consumers are lapping up all the milk and milk products produced in the country. The milk marketers need to be congratulated on the most impressive expansion of the milk marketing system that caters to the consumers in every nook and corner of the country. We are truly a milk country and we can say that with pride at this conference in Kochi, Kerala — God's Own Country.

**How are we going to sustain growth?**

Dairy farming in India continues to be characterized by crop residue and family labor based occupation that immensely benefits landless and small farmers. To maintain this mode of production, cropping patterns in India will need to feed in larger amounts of crop residues that can be utilized for increased milk production. A limited amount of area is also being used for the production of green fodder that supplements feed concentrates on a very competitive basis. Further increases in the conversion efficiency in converting feeds to milk, through better feed management, and better converters is the strategy that seems to be working well. The improvement in conversion efficiencies has to be not only in energy conversion but also in economic terms. However, the limits to increases in conversion efficiencies could become a limiting factor.

The limit to the growth of milk production needs to be examined scientifically. Limits are also being imposed on the marketing of surplus cattle that affects not only

Fig. 1: Private Final Consumption Expenditure (PFCE), 2014-15



the free market in cattle trade but also imposes a drain on the country's feed resources. Our agriculture has to optimize on our land, water and human resources in a most efficient manner. Milk is a vital part of this optimization process.

Table 1: Projected demand for milk and milk products

	1995	2015	2022	2060
Per capita (grams/day)	178	340	400	500
Population( million)	850	1250	1420	1710
Milk Consumption (million tons)	56	150	210	320

Increasing milk production to 400 million tons annually is a daunting task that fits well into the target for doubling farmers' incomes by the year 2022. This will need a very careful implementation of the policy framework that does not deviate from the support that the milk sector has received until recently. The current surplus milk powder situation in the country, if not handled properly, will have a disastrous impact on the long term growth of the sector. The buffer stocking of dairy commodities, as provided under the NDDB Act, is a crucial provision in the policy framework of the country and needs to be activated in full measure to protect the interests of the milk producers and the consumers.

Some states have started the anti-dairy development



# Curtain Raiser Lecture

cycle again by subsidizing farmers up to ₹ 5 per liter of milk which has resulted in lower prices in some of our richest cities and taken control of the prices from the farmer organizations in a supposedly free market. This has adversely affected the overall situation by a particular state being able to produce cheaper milk powder than the rest of the country, thus affecting the smooth functioning of the National Milk Grid.

Some milk processors have stopped collecting milk on all days of the week. Are milk holidays back? We need to correct this situation ASAP. Have we given up on the market intervention and buffer stocking of conserved dairy commodities? This could expose the dairy farmers to uncertainties that could harm the future of milk production and farmer incomes at this crucial juncture.

The milk consumers in India have been very kind to the dairy industry. They are aware of the disruption in their lives when milk was rationed and milk products were black marketed. They have so far supported the dairy industry against the scourge of synthetic milk being put out by some unscrupulous operators. However perceptions can change. Look at what the cholesterol factor did to the dairy industry worldwide.

Bad quality milk put out largely by the organized sector should be everyone's concern. Adulterated *ghee* is a curse on the dairy sector. Adulterated milk-based sweets are giving milk a bad name that needs to be fiercely protected. We are allowing exploitative space to unscrupulous operators in this business of dealing with the most revered food in India. In any case we should not take consumers for granted and strive for better quality of milk and milk products. We should encourage better quality raw milk and that can best be achieved by paying the farmers an incentive price for more hygienic milk. An incentive of 10% higher price will go a long way in improving the quality of our raw milk.

It appears that technology is now available to have instant indicators of microbial loads to facilitate payment on hygienic quality of milk. It is a pity that the microbial load in our raw milk is as bad as it was sixty years ago. We have to show progress in this area in line with the *Swachhata Abhiyaan*. Also you cannot make good products from bad quality milk. This will have a positive effect on keeping quality of packaged milk. A consumer should be able to keep milk in the fridge for at least a week from the present 2-3 days.

That will also help its marketing in family packs. We can do better than using a Bactofuge unit to reduce microbial load in our milk. We can start with cleaner milk by inculcating clean milk production techniques at the farmer level. Clean unadulterated milk should be a part of our mission.

## **Increasing efficiencies in milk procurement, processing and marketing**

When Operation Flood started in 1970, one of the first exercises done was to review the state of technology for milk procurement, testing, processing and marketing. That led to standardization of the feeder/balancing dairy, Mother Dairy concept including bulk vending. It saved us a lot of capital investment in plant and equipment. Do we not have better pathways to these processes with much more technology available now? Is our milk processing and marketing environment friendly and sustainable? Are we sufficiently recycling our packaging material? There is now a tendency to use multi-layered packages with aluminum foil and that cannot be recycled and costs more than the product itself. Do we use enough renewable energy and are we maximizing its use? Are we sharing with each other our performance and goals to achieve greater efficiency in use of water, electricity, packaging materials and minimizing wastage? Should IDA (Indian Dairy Association) not facilitate the sharing of this information while maintaining confidentiality like what ATIRA (Ahmedabad Textile Industry's Research Association) did for the textile industry in its heydays? That helped the textile industry increase its efficiency.

We have graduated from the tiny dairy plants of 10,000 liters per day plants (LPD) that were put up in the sixties to one lakh LPD plants in the seventies to one million LPD plants today. That alone has helped in bringing in economic efficiencies by spreading the overheads to larger volumes. Milk processing has now become a profitable business on the low margin high volume basis. Our organized milk marketing has gone up from one million tons in the early seventies to 30 million tons annually today. That is an explosive growth. Half of the milk processed in the organized sector is now handled by the private sector. Its growth without any Government assistance demonstrates the free market in this sector is working reasonably well and there is place for all the players to grow and help increase milk production and farmer incomes.





**Do we have the best product mix?**

In the sixties, the private sector companies started with the most profitable milk products like malted milks, infant milk formulas, condensed milk etc. You had 25% expensive milk and 75% cheap malt, sold at a price greater than milk itself. This is what our *halwais* have done all along. *Halwais* sell milk solids with 15-20% moisture and 30% sugar at prices higher than whole milk powder. They are obviously much smarter than the organized dairy sector in terms of making money. The additional profit that some of them make selling adulterated stuff brings bad name to all of us and to milk itself. Why is the organized sector ignoring this opportunity? Is there a need for larger scale technology to manufacture and market these products? Should our stakeholders including consumers not expect from us better, more hygienic traditional milk products?

It is reported that some dairy organizations are making more money from 25,000 liters of milk used for making *Khoa*-based sweets than marketing 500,000 liters of liquid milk. This is worth following up especially now that, technologies are available to continuously manufacture products like *Khoa* on an industrial scale. This has also been amply demonstrated in case of *Shrikhand*, *Mishtidoi* and other traditional milk products. The industry has done very well on *lassi*, *Chhas* and *Dahi*.

**Should we not expand into other perishable protective foods?**

We are in the perishable protective food business. There is a lot of commonality between milk and perishable fruits and vegetables. Some of the processes that were deployed to develop the dairy industry are common to both these segments of our food chain. Even though fruits and vegetables are not as perishable as milk, the growers get only half the share of consumer's rupee as compared to the dairy sector. In fact the then Prime Minister of India asked Dr. Kurien as to why a grower gets only two rupees for a cauliflower while the consumer pays ten rupees. That was the beginning of the Safal project of Mother Dairy, Delhi. That project has taught us a lot and with that experience we can venture successfully into the perishable fruit and vegetable sector.

The dairy industry all over the world has diversified into fruit juices, nectars, fruit drinks and made extensive use of fruits, vegetables to spice its product range. Fortunately we have products like *paneer* that are usually served with a range of vegetables and milk base *halwa*

has carrots, *dudhi*, mangoes and other fruits. We have a tremendous opportunity to expand into fruits and vegetables. That will not only bring the growers some relief from the exploitative trade practices but also increase the production of the perishable protective foods.

We have tremendous experience in procurement of perishable milk from the villages, infrastructure to provide inputs to the farmers, extension services that help the farmers, payment systems that pay twice a day on the basis of quality, technologies to extend shelf life, conversion of perishable goods to long lasting conserved commodities, cold stores and deep freezes, a cold chain and marketing outlets for perishables. All this experience and infrastructure can be used more efficiently by addition of new product lines.

In the perishable green sector, the product losses are 40% and the producer takes the hit on these losses. If we are serious about doubling farmer incomes by the year 2022, perishable greens provide the greatest opportunity for productive employment at the farm level. After all, an acre of tomatoes takes ten times more labor than an acre of wheat. Perishable greens can yield ten times more per acre than wheat only if these could fetch the MSP for wheat on a regular basis. That surely is the fastest route to doubling farmer incomes. Fruits and vegetables use only 10% of our land and water, yet they contribute nearly one third of our agricultural GDP. And the growth in this sector has been far more phenomenal than milk even without an Operation Flood. All that growth is market driven. If the farmers in this sector were to get the same proportion of the consumers' rupee as our dairy farmers, the growth would be much higher and India could become the fruit and vegetable grower to the whole world.



# inaugural session

## Welcome Address

*By*  
**Mr. C.P. Charles**  
*Chairman, IDA (SZ)*

**A** hearty welcome to one and all to God's Own Country, Kerala, for this 46<sup>th</sup> Dairy Industry Conference. This is the third conference in Kerala, the first one was in 1971, second in 1988 and present DIC in 2018, which is being organized after a long gap in the state. As you know Indian Dairy Association organizes this Conference, and on behalf of the Association I express my hearty welcome to Adv. K. Raju, Hon'ble Minister of Animal Husbandry and Dairying to inaugurate the Conference. I welcome Dr. G.S. Rajorhia, President, Indian Dairy Association who is presiding over the Inaugural function. After taking over as President-IDA, this is the first conference being organized under his guidance.

I welcome Dr. R.R.B Singh, Director, National Dairy Research Institute, to release the Souvenir for the Conference. I welcome Shri Anirudh, Secretary of Dairy, Government of Kerala, Vice Chancellor of Kerala, Animal Science University to participate in the Inaugural function. I welcome Dr. Bandla Srinivas, Secretary, IDA (SZ) to this conference. I welcome Professor Dr. Geevarghese, Secretary General of this Conference and thank him for organizing the event. Whatever you are observing today is because of his efforts. I heartily welcome dairy farmers from across the country who have travelled long distances to participate in the conference and I congratulate their performance in retaining our country's first position in milk production for the last two decades. I welcome the Conference sponsors for providing financial support. I welcome Speakers, Chairmen, Co Chairmen and Conveners participating in various technical sessions. I especially welcome participants from abroad. I invite them for participating in the dairy expo and welcome Koelnmesse YA Tradefair Pvt. Ltd for organizing the exhibition. I welcome the former President of IDA, CEC members and especially the members of Indian Dairy Association to this conference. I welcome all professionals, scientists, board of directors from co-operatives, chief executive officers of cooperatives and corporates, government officials, teachers, and students



for attending this conference. I welcome the Press and media persons covering this function and conference; I thank them for covering the DIC in the newspapers for the past two days. I welcome police personnel and the event manager for the tasteful interior and exterior decorations, including sound systems etc. I thank different organizing committees of the conference and extend my welcome to them. I thank the Vice Chancellor, faculty and students of Kerala Veterinary Animal Science University and Dairy Science College Mannuthy for making this Conference a grand success.

The theme of the Conference is "Dairying – Sufficiency to Efficiency" and the deliberations will help solve the issues efficiently through various technical solutions by various scientists and researchers from India and abroad.

I once again welcome you all to God's Own Country, Kerala, and wish you a pleasant stay.

Jai Hind and Namaskar.





## Presidential Address

By

**Dr. G.S. Rajorhia**

*President, Indian Dairy Association*

It is indeed a matter of great pride for me to greet you all attending this 46<sup>th</sup> Dairy Industry Conference. I am so happy that the Minister of Animal Husbandry and Dairying of Government of Kerala is with us as the Chief Guest. We are honoured with the presence of Mr. Anil X, an IAS officer, who is Secretary to Department of Dairy Development, Government of Kerala and is also holding the charge of Vice Chancellor of Kerala Veterinary and Animal Sciences University. My friends sitting on the dais, Mr. Charles, Dr. R.R.B. Singh, Dr. Bandla Srinivas and Dr. Geevarghese, I extend a warm welcome to all of you to this 46<sup>th</sup> Dairy Industry Conference. Dr. R.P. Aneja, whose lecture we heard this morning, gave a clear message that though the theme of the conference is, 'Dairying – Sufficiency to Efficiency', one should not carry the notion that we have not been efficient as far as milk production, value addition and milk processing are concerned. While India produces more than 17% of the world's milk worth ₹ 5 lakh crores, unfortunately value-addition and milk processing figures are not very impressive. Out of the total milk production only about 20% is being utilized by the Cooperative and Private sectors. Although the per capita availability also has gone up, with the per capita demand for milk increasing each year, the growth rate needs to be accelerated from the present rate of 6.3%. The unremunerative price of milk that the farmers are getting is a matter of concern. The prices that consumers pay for milk also deserve to be examined. The investment in this sector is expected to be around ₹ 9000 crore in the next five years.

Friends, you are aware that at present the Indian dairy industry is facing several challenges. There are heavy cuts in the purchase price of milk influenced by low prices of skimmed milk powder (SMP) in the international market and also low prices for butter in domestic and international markets. There is an urgent need for assurance of minimum support price for milk like other agricultural commodities. Nuisance of adulteration and also the quality



of milk production in many regions, high input costs and unrealistic goods and services tax levied on dairy products, plant and dairy machineries are the other issues that must be deliberated upon. A suitable action plan should be developed to ensure steady growth in milk production. Drop in milk prices has caused much concern amongst milk producers and marginal farmers who contribute large amounts of milk and are severely stressed. It is often mentioned that because of low prices milk producers are diverting their surplus milk to dairy cooperatives as private dairies refuse to purchase milk. The accumulation of SMP is more than 150,000 tons which is expected to rise to 200,000 tons in the next four months. This is causing great concern among all stakeholders of the industry. A lot of working capital arranged from bank overdraft and short term loans is getting lost. The dairies have to make timely payments

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to dairy farmers. The private sector and the State federations have demanded one time subsidy from the Government of India on the stocks of SMP @ ₹ 50/kg and ₹ 25/kg on white butter and ghee as on 31<sup>st</sup> March 2018. The demand for enhancing the incentives on export on dairy products from current rate of 5% to 15% of the level of value of consignment is also placed before the Government of India. While discussing the incentives no discrimination should be made between the cooperative and private owned dairy plants. Let us keep farmers away from such discriminations.

IDA is also concerned about quality and safety of milk production to ensure compliance with national and international standards. In animal health, focus must be placed on vaccination, parasitic eradication and supply of clean drinking water. Emphasis should be placed on fodder cultivation, laying down demonstration units of hydroponics, azolla cultivation, urea treatment, silage

making and supply of seeds for nutritious fodder grasses. Nutritional significance of milk and ghee should be highlighted. There is a need for promoting the health benefits of milk and milk products including ghee. Those who raised concerns about cholesterol in butter and ghee in the US have now concluded that dietary cholesterol does not harm the health of consumers. Therefore dairy industry must promote the consumption of butter and ghee in daily diets. The consequences of not consuming dietary cholesterol are more disastrous as the human body synthesizes its own cholesterol which is reported to be harmful for health.

The role of dairying for doubling farmers' income cannot be over-emphasized. We join hands with the government initiatives and efforts in this noble cause.

I wish the Conference a great success.

Thank you very much.







# Inaugural Address

By  
**Adv. K. Raju**  
*Hon'ble Minister*  
*for Forests, Animal Husbandry,*  
*Dairying and Zoos, Govt. of Kerala*

**R**espected Dignitaries,

A very Good Morning to all of you. First of all, let me welcome you all to this God's Own Country, and to this 46<sup>th</sup> Dairy Industry Conference 2018, on behalf of the Government of Kerala.

I understand that this Dairy Industry Conference is a flagship event of Indian Dairy Association. The IDA is a professional body of Dairy Industry in India and an organization of national repute. No doubt, the service they provide to the national dairy fraternity is really commendable. I strongly believe that this event will provide a live platform for dairy professionals, farmers, equipment manufacturers, policy makers and students for meaningful interactions related to dairy sector.

I was informed by the organizers that the 23<sup>rd</sup> Dairy Industry Conference was held in Kerala in 1988 and it is really astonishing to note that the Indian Dairy Association is organizing the Dairy Industry Conference in Kerala after a long span of thirty years. During this gap we could witness a drastic transformation in the sector. In this context I congratulate the efforts put in by the organizers of this event – IDA South Zone and its Kerala Chapter for making it happen in Kerala this time and I wish this event a grand success.

### Introduction

Our Dairy Sector has a crucial role in ensuring food security, reducing poverty and as such sustaining agricultural growth in India. The Economic Survey for the financial year 2017-18 was tabled in the Parliament last month on 29<sup>th</sup> January. As per the Survey report, the predicted growth rate of the agriculture and allied sectors shows a dip from 4.1% to 2.1 % which is an alarming situation. This is happening when the Central Government claims to be keen on doubling farmers' income by 2022, for which it has launched several new initiatives that encompass several agriculture related activities. I therefore think it is the right time to bring in effective interventions



not only to sustain but also to excel the performance of our agriculture sector with special emphasis to dairying.

### Dairy Sector: International Scenario

As we all know, Milk is one of the most valuable agricultural commodities worldwide. This is evident from the fact that the World Milk Day was initiated by Food and Agriculture Organisation and is observed on 1st of June every year across the globe to recognize the significance of dairy products.

Let me draw your attention to some possible adverse impact upon our dairy sector due to certain recent international interventions.

You all might be aware about Regional Comprehensive Economic Partnership Agreement (RECP). It is the proposed mega Regional Free Trade Agreement between 16 Asia-Pacific countries including India, China, Japan, South Korea, Australia, New Zealand and the



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10-member nations of ASEAN. If accomplished, RCEP is expected to pave the way for the creation of the largest free trade bloc in the world. But let us analyse the impact of RCEP.

RCEP negotiations were formally launched in November 2012 at the ASEAN Summit in Cambodia. During the ministerial level meet on Regional Comprehensive Economic Partnership at Laos in 2016, it is understood that the Govt. of India has officially communicated its position to consider a uniform yardstick for elimination in a number of tariff lines. Govt. of India is also pushing for liberalisation of trade in various services including Dairying by significantly eliminating tariff rates of various goods and services.

It may be noted that countries like New Zealand and Australia which have recorded excess milk production over consumption are currently the leading exporters of dairy products in the world. Powdered milk offers convenience of transportation in bulk apart from very long shelf life making it suitable for use as a part of all supplies.

This being the condition, there is a threat that Butter oil and Skim milk powder might reach our internal market from these countries at a cheaper rate which will result in extensive reconstitution leading to availability of such milk at very low prices. The cost of milk production in our country is high. The inflow of cheaper raw materials for reconstituted milk might adversely affect the market for the natural milk produced by our dairy farmers which is better in flavour and taste as claimed by consumers. Thus both our producers and consumers are going to be affected.

Also, milk products from these countries will be price competitive and the elimination of tariff lines potentially opens up a much larger possibility of Indian milk producers facing strong competitive pressure from countries like New Zealand and Australia. India is not so export competitive in any of the dairy products traded globally except in the case of milk powder.

A unique feature of Indian dairy sector is the high share of the consumer rupee flowing into the hands of the primary milk producers, thanks to the Operation Flood programmes. It is feared that opening up of the dairy sector hastily to global competition will be a recipe for disaster unless the small producers are provided with appropriate policy support.

Our small and marginal farmers in Kerala are not

yet ready to compete with their counterparts from New Zealand and Australia. It is foreseen that RCEP might end up in such a situation and would result in tragedy as far as the Kerala farmers are concerned.

The RCEP agreement is expected to be signed by India during November 2018. I would like to take this opportunity to request the Central Government authorities to kindly hold discussions and consultations with all state Governments before finalising RCEP. It is requested that the RCEP objectives may kindly be revisited and revised so that opening up of dairy sector in Kerala to external competition from developed countries can be prevented. If modesty permits, I may point out that Government of Kerala has addressed Govt. of India of the above-mentioned apprehensions.

The Central government may kindly draw all stakeholders to the discussion table. Along with this, in-depth research and analytical studies to measure the impacts of RCEP upon the dairy sector may be conducted. It is very important for the government to seek active engagement of dairy farmer groups to save the dairy sector in the country at large and of the state in particular.

### **Dairy Sector: National Scenario**

Let me highlight the current national scenario. India is the largest milk producer in the world. It sustains the first position in milk production for the last two decades thanks to the population strength of milch animals in our country. It is understood that 46<sup>th</sup> Dairy Industry Conference focuses on “Dairying: Sufficiency to Efficiency”.

This seems appropriate for the national scenario to elevate our national dairy sector from adequacy to excellence. Adopting adequate measures for increasing the productivity of animals has to be given due emphasis. Dairy industry in the country also has undergone considerable transformation mainly due to the application of scientific production techniques.

### **Remembering Dr. Verghese Kurien and Mr. H.M. Dalaya**

Dr. Verghese Kurien — the Father of the White Revolution was a great visionary. His billion-litre idea — the Operation Flood programme is considered even now as the world's largest Agricultural development programme. It raised India to the status of the world's largest milk producer from a milk-deficient nation over a period of thirty years. He also pioneered the replication of “Anand pattern” dairy cooperatives nationwide.

Mr. H.M. Dalaya is known as the silent Milkman



of India. Dr. Kurien's success was possible because Mr. Dalaya was there to deliver all his dreams by building institutions that performed. Their companionship and joint efforts deserve our deepest respect.

Recently, the price of milk powder has declined in international market resulting in reduced milk prices for dairy farmers in states like Maharashtra, Karnataka and Gujarat. These states are more vulnerable to international price fluctuations being leading exporters of dairy products. It is also understood that procurement price cut has happened in certain states while procurement is heavily subsidized in certain other states. The representatives from the respective states might be able to convey the present status in their states with a fruitful discussion to overcome the challenges. But in Kerala, the state Government and Milma are jointly working to ensure that there is no slashing of milk price.

**Dairy Sector: The State Scenario**

In Kerala, the dairy sector is dominated by around 2 lakhs small and marginal dairy farmers with small landholdings mostly owning one or two milching animals.

The unfortunate fact is that the cost of milk production in Kerala is very high compared to that of other states. All the inputs required for rearing cattle including ingredients of cattle feed is presently brought from neighbouring states which in turn shoots up the cost of milk production. But Kerala is presently capable of dealing with the situation, thanks to the strong network of dairy cooperatives spread across the state and due to the appropriate intervention of the state government offering various schemes and programmes targeted towards the sector.

• **Schemes in the sector**

The fodder development scheme implemented by Kerala Dairy Development Department is to be considered as an effort in the right direction to ensure sustainable dairying. The Commercial Milk Shed Development Programmes which promote induction of cows from neighbouring states is another flagship programme. The Rural Dairy Extension and Advisory activities implemented by the department help in extending latest scientific knowhow to the dairy farmers. I think there is no other state offering pension to dairy farmers who pour milk in dairy cooperative societies. I believe Kerala is the first and only state to do so through Kerala Dairy Farmers' Welfare Fund Board. Not just pension and family pension but other financial assistance like education assistance,

marriage assistance, treatment assistance etc are also provided by the Board.

• **Dairy Cooperatives**

The agriculture sector in Kerala is facing challenges due to several reasons. Paddy cultivation was the part and parcel of our culture earlier and it is the state's major food crop even now. Despite these facts, we know that the area and production of paddy continues to decline over the years. Coconut farming and cash crop cultivation like rubber, tea, coffee, pepper, cardamom etc which contribute significantly to the rural economy also faced severe setbacks during the recent years. On the contrary dairy sector in the state has survived successfully and has recorded steady increase in milk production ensuring assured increase in price to farmers for the last decade. I am proud to say that the first Cooperative union was registered in this state at Calicut, the birth place of Dr. Kurien. The Calicut Cooperative Milk Supply Union was established on 13<sup>th</sup> September 1939, around 7 years prior to the formation of Anand Milk Union which was formed only in 1946.

Presently, Government of Kerala is aiming to attain self-sufficiency in milk production. This is done by implementing various schemes and programmes targeting the welfare of dairy farmers and augmenting milk production. The dairy cooperatives provide ready market and steady price to the dairy producers and play a vital role in rural economy procuring milk from marginal farmers. Milma — the brand name symbolizes the entire cooperative sector in the state represented by Kerala Cooperative Milk Marketing Federation at its top, Regional Unions and dairies at the middle level and the primary dairy cooperatives at the bottom most tier. Laudable efforts have been put in by Milma in procuring and marketing Milma and establishing it as the farmers milk in the state. We Keralites relate 'Milma' as 'Menma' meaning quality and the loyalty towards the brand is really deep rooted.

There is no doubt that the state government has given much importance to the development of dairy co-operative network in the state. This in turn has contributed to the growth of the dairy sector.

• **Success of North Kerala Dairy Project**

I do believe that Malabar Region of Kerala needs a special mention as it has been milk surplus for the last 10 years consistently. In 1970, Operation Flood envisaged by NDDDB covered only the southern and central regions





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of Kerala. This was because the northern areas of the state were categorised as unfavourable for dairy farming. The Government of Kerala at a later stage refused to accept this categorization and requested Switzerland for assistance to promote dairying in Northern Kerala and the North Kerala Dairy Project (NKDP) was conceived by the Govt of Kerala in 1988. Malabar Milk Union was established by Government of Kerala for the implementation of the project which continues to be owned by the dairy farmers, although it is managed by professionals.

Over the last 30 years, the number of farmers supplying milk has increased manifold in northern part of Kerala and Malabar Region is consistently supplying surplus milk. This is a success story which can be showcased across our country.

● **Significance of Quality Control Activities**

Quality really matters and milk is no exception. It is considered as the balanced diet with all nutrition required for growth.

In 2011 Food Safety Standards Authority of India has introduced new food safety standards for milk and milk products and has enacted new regulations for licensing and registration of business. Aligned with this, Kerala Dairy Development Department has initiated various programmes for producers, food business operators and consumers regarding importance of hygiene, sanitation and assuring milk and milk products quality. Department has conducted intensive training programmes with new legal regime. Department has also set up NABL accredited State Dairy Laboratory and Regional labs in the state for testing various parameters in dairy products, cattle feed, water etc. Quality of milk that enters into the state through check posts is also monitored.

● **Veterinary Aid and network of Artificial Insemination Centres**

Kerala has to its credit veterinary clinics in each Panchayat and a good network of Artificial Insemination centres spread in every nook and corner of the state. This has helped in ensuring health of cattle and in successfully extending the cross breeding policy of the state, thanks to the initiatives of Kerala Animal Husbandry Department and Kerala Livestock Development Board.

● **Other Sessions associated with DIC**

It is understood that in association with this conference several other events are also organized. International trade fair and Dairy Expo is expected to be a one stop solution to the dairy industry to showcase

the latest technological developments. The distinctive attraction of the conference will be the farmers' session. In this session, the dairy farmers from various states will get a chance to interact amongst themselves and with the dignitaries in the field. It is learnt that a 'Students conclave' is also arranged where undergraduate and post graduate students will get an opportunity to showcase their research talents. Altogether this is really a unique technological event and dairy professionals of this generation in Kerala are really lucky to witness this event. In this context I would like to draw your attention to the significance of Research and Development in dairy Sector, which I feel has miles to go.

We are all aware that our native breeds though disease resistant, are less productive. While Indian cattle breeds are doing exceptionally well abroad, our fascination for exotic breeds seems to be never ending. Can we have breeds having both the qualities? Research needs to be conducted in this area. There should be strong research in the following areas as well:

- How to increase productivity per animal especially in our native breeds
- How to extend the lactation period of milch animals
- How to improve cattle nutrition
- How to improve feed conversion ratio
- How to identify sterility at an earlier stage
- How to mitigate factors leading to sterility etc.

I feel all factors affecting milk production directly and indirectly need to be studied and it is high time we formulate an effective scientific research strategy.

**Conclusion**

I understand that this conference is adorned by the presence of dairy producers, professionals and planners, members from dairy cooperatives, MNCs, corporate bodies, private institutions, educational institutions, government and public sector units across the country. The participants will surely get a chance to present their research findings and their views that could contribute to the sustainability of dairy sector. Let all of us be able to interact, learn, share and link with our fellowmen across the country.

Let me once again extend my whole-hearted welcome to all the members who have gathered here to make this event a grand success. I am really honored to stand before you to inaugurate this prestigious national event. With the permission of all distinguished guests present on the dais and the learned delegates, I hereby declare the 46<sup>th</sup> Dairy Industry Conference officially inaugurated.

Thank you.



# Keynote Address

By

**Mr. Dilip Rath**

*Chairman, National Dairy Development Board*

February 8-10, 2018, Kochi

**H**on'ble Minister for Forests, Animal Husbandry and Zoos, Government of Kerala Adv. K. Raju; Dr. G.S. Rajorhia, President, Indian Dairy Association; Mr. C.P. Charles, Chairman, IDA (South Zone); distinguished guests on the dais; delegates representing the dairy industry; ladies and gentlemen.

It is a pleasure to be amongst you today at the 46<sup>th</sup> Dairy Industry Conference being held at Kochi. I compliment the Indian Dairy Association for organising these annual dairy industry conferences which bring together all stakeholders of our dairy sector on a common platform and showcase the achievements, strengths and opportunities of our dairy industry.

I must also commend IDA for the choice of the theme for this year's conference, namely "Dairying: Sufficiency to Efficiency". If we have to make our dairy industry globally competitive and continue to maintain our self-sufficiency in milk on a sustainable basis, focus needs to be on improving quality and efficiencies at all levels across the entire dairy value chain.

### **Achieving self-sufficiency**

There was a time when our country used to rely heavily on imports for meeting its demand for milk. Thanks to the collective efforts of millions of landless, small and marginal dairy farmers and the milk producer institutions which represents them, we could not only become self-sufficient in milk production but also the world's leading milk producer. Today, India is contributing about 20.2% to the world milk production and we are growing at an annual rate of about 5% consistently over the last decade.

Various programmes like Operation Flood (OF), the world's largest dairy development programme, planned and implemented by NDDB between 1970 and 1996 and now the National Dairy Plan currently being implemented by the Dairy Board unleashed the dairy



potential of our country and transformed the dairy industry. Milk production, which had remained stagnant at 22 million tonnes in the sixties and seventies has increased to about 165.4 million MT in 2016-17. The daily per capita milk availability has also increased from 112 grams in 1973-74 to 352 grams in 2016-17.

### **Role of dairying in India**

In India, dairying is an important economic activity which contributes to about 67% of the value of output of livestock sector. Milk producing households are predominantly small farmers with less than 2 ha of land and 1 to 2 milking animals. Dairying in India is more about livelihoods for millions of small holders than simply a business. Income from dairying contributes to about 25% of the income of small and marginal farmers. Dairy Development is therefore a very important developmental intervention in rural India for achieving



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agricultural growth with equity.

Dairying will undoubtedly play an important role in achieving the target set by Honourable Prime Minister for doubling farmer income by 2021-22. Government of India has recently unveiled a seven point strategy to achieve this which includes (i) increasing productivity (ii) effective use of inputs (iii) reduction of post-harvest losses (iv) value addition (v) reforms in marketing (vi) reduction in risks, and (vii) promotion of allied activities such as dairy, beekeeping etc.

Many of these issues are already being addressed under various on-going programmes such as National Dairy Plan – Phase I (NDP-I) and Dairy Processing and Infrastructure Development Fund (DIDF) that are being implemented by Dairy Board.

By 2050, India would become the world's most populous country – about 1.7 billion consisting of 600 million in the middle income class. Currently, our per capita consumption of milk is about 350 gms per day, which is lower than the per capita consumption in developed countries, 814 gms in USA, 562 in Canada, 602 EU etc. Growth in population and consumption would continue to stimulate demand for milk and milk products in our country in the years to come.

Given our limited resources, environmental constraints and a huge animal population with low productivity, the only way we can continue to maintain our self-sufficiency in milk is by bringing about efficiencies at all levels in the dairy value chain. Therefore it would be more appropriate to use the phrase — “Sufficiency through Efficiency” rather than “Sufficiency to Efficiency” as the theme of this year's conference.

Important areas for improving efficiency in dairy sector would cover production, processing, operational and allocative efficiencies, benchmarking with global standards, identifying the factors responsible for inefficiencies and taking up measures to address them.

Few of the segments of our Dairy Sector which require focused interventions include, improvements in animal productivity through interventions in breeding, nutrition and animal health, market access to milk producers, food safety and quality, governance and management of producer owned institutions, adaptation to climate change and market volatility.

### Animal Breeding

Even though we are the world's largest milk producer, the average productivity of about 4.90 Kg

per day for 2016-17 is much lower than the productivity levels of in-milk animals in dairy developed countries.

To bring about productivity enhancement through genetic improvement of our animals from one generation to the other, it is necessary to strengthen the bull selection and frozen semen production infrastructure for different breeds with full bio-security, especially for the indigenous dairy breeds and continue the scientific selection process which has been recently introduced in the breeding tracts of the identified breeds for the first time under NDP-I.

States have to introduce enabling and comprehensive regulatory frameworks to cover all breeding activities with quality assurance and ensure that an effective doorstep AI delivery infrastructure is in place to offer efficient services to farmers.

At the same time, if we have to fast track the genetic improvement and productivity of our indigenous dairy breeds, we have to introduce Advanced Breeding Technologies, such as use of Sexed Semen to produce only female calves with proven pedigrees, propagation of superior germplasm through IVF and Embryo Transfer. Only through this way, our farmers will gradually convert their exotic and crossbred herds to indigenous cows and buffaloes without drop in milk yield and incomes.

### Animal Nutrition

It is well known that the genetic potential of milch animals can find optimum expression through commensurate milk yield only when they are fed optimum and balanced ration. There is a misconceived perception that in our country feed and fodder availability will be a limiting factor in restricting milk production growth. However, contrary to this belief, there is a huge opportunity to optimize feeding and nutrition for small holder dairy farmers. In our country, animal feed requirement could be met from domestically grown feed resources not commonly used or suitable for human consumption. Our crop-residue based animal nutrition system offers huge opportunity to tap the agricultural by products and crop residues which will be increasingly available from the growing agriculture and horticulture sector, as well as potential use of novel feed resources using appropriate technologies such as promotion of crops like Moringa, non-toxic Jatropha kernel meals, detoxified Castor meals, use of huge quantity of untapped fruit and vegetable waste, use of huge quantity of straws presently being burnt by securing, enriching, densifying and pelletising them for easier transport, thornless cactus, even using





insect meal and sea weed as feed etc.

To put in place a reliable quality assurance system and efficient use of feed, it is necessary to have a comprehensive feed regulatory certification mechanism which is unfortunately absent in our country. We in NDDB are currently working on a voluntary feed regulatory and certification mechanism to ensure quality of feed and efficiency in the animal nutrition system which we hope to launch soon.

**Animal Health**

Prevalence of infectious animal diseases like FMD in our country, despite huge public funding of the national FMD Control programme over the last several years is not only causing significant economic losses in terms of milk yield and mortality, but is also limiting the export opportunities of dairy commodities.

Indiscriminate use of antibiotics to treat animal diseases are contributing to development of anti-microbial resistance (AMR) which will pose a huge human health threat to our population. Dairy Board has developed an alternative system of ethno-veterinary medication using medical plants, herbs and spices and traditional knowledge to treat a number of common animal diseases, including mastitis. Some of these animal diseases, viz., brucellosis, bovine tuberculosis, rabies etc. are of zoonotic importance and are being transmitted from animals to humans, posing a significant challenge. It is necessary to introduce programmes with public funding to control and eradicate these diseases within a stipulated time frame.

Veterinary services in our country need to be much more efficient and responsive and accountable to the real stakeholders in dairying, viz., the milk producers themselves and their organizations if we have to reach anywhere near our goal to control and eradicate animal disease in the foreseeable future.

It will be necessary for all stakeholders implementing Productivity Enhancement programmes to use the robust ICT based MIS, namely, INAPH developed by NDDB to not only capture and validate all relevant data of all genetic improvement, AI, nutrition and animal health transactions on animals on near real time basis but also objectively track and measures the gains. The national data base which will be created through this system (currently there are about 10 million animals already registered in the system) will ensure Animal Identification and Traceability – a means to make our productivity enhancement and milk collection systems transparent and efficient.

**Increasing market access**

India's milk producers estimated at more than 70 million are dispersed widely across the country. However providing efficient market access through transparent milk procurement systems at village level, requires minimum quantity per collection point, for setting up viable milk collection operations and logistics. Of the nearly 6,00,000 villages in our country, there are only about 3,20,000 villages which have some minimum potential for setting up a milk collection network out of which organized sector, including cooperatives have covered about 1,75,000. Covering more villages poses a big challenge to milk producer institutions when the volumes per collection point are relatively lower and many areas lack basic physical infrastructure like all weather roads and electricity, apart from the weaknesses of many institutions themselves, particularly in the marketing area.

At the same time, we have seen that simply providing market access even in low potential villages by itself gives a fillip to milk production and surplus. This would justify expansion of village level procurement infrastructure with an element of subsidy in the initial stages. Therefore, enhancing farmers' incomes through dairy development in backward areas requires an element of grant in the initial phases together with public funding to improve rural infrastructure.

**Food safety and quality**

In view of the necessity to comply with stringent food standards and growing consumer awareness in respect to quality and safety, dairy industry has to continuously work towards improving quality in the entire dairy value chain – from the farm level to retail point. Considering that majority of our milk producers are smallholders with one to two animals, the way forward for ensuring the quality starts with hygienic milking of animals and milk procurement. Presently, only about 60% of the total quantity of milk procured by cooperative sector is covered under cold chain and less than 50% of the milk collection centres use milk testing facilities. States need to provide financial support to dairy industry to strengthen infrastructure for village level cooling and testing facilities which would help in addressing these issues. Dairies should also introduce an element of premium/penalty linked to quality of milk as part of their pricing policy to encourage milk producers to improve the quality of milk.

On the dairy processing front, many of the dairy



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plants in India have outlived their “efficiency life” and need to be modernized to make them more energy efficient and reduce milk solids losses. While moving forward, dairies should introduce a system for quick detection of adulterants, antibiotics and pesticides residues in milk and traceability thereof by moving towards an Animal Identification system using the ICT based MIS, viz., INAPH.

Another important factor for bringing in efficiencies in the dairy sector would be to improve the efficiency of the human resources in the dairy industry. This would require upgradation of the skill sets of the human resources through training and capacity building programmes. Dairy Industry can perhaps think of establishing a national level training institution which can provide training and skill upgradation on all technical and practical aspects of dairying covering input services, procurement, processing and marketing. IDA may perhaps take the leadership with cooperation of dairy industry to create a national level facility to cater to the human resource requirement of the industry.

### Regional variations

The development of dairy sector has not been equitable across regions and there have been disparities in production, productivity, infrastructure, branding etc. For example, eastern region of India including states like West Bengal, Odisha, Bihar, Jharkhand and Chhattisgarh account for about 25% of the country’s human population and 20% of the in-milk animals but they contribute to only about 12% of milk production. There are also wide intra State variations in some so-called dairy developed States. Dairying can become an effective tool in improving the incomes of farmers in these states by sustaining their livelihoods. It has been demonstrated in Jharkhand, North-West Bihar and Vidarbha-Marathwada where NDDB has started milk procurement operations that with the right kind of policy support creation of a transparent village based milk procurement system and ensure market linkages, it is possible to boost farmers income which can stimulate milk production.

### Governance and management of farmer organizations

Historically dairy cooperatives as farmer owned and controlled institutions have been pioneers in ushering in the white revolution in our country and have laid a strong foundation of our dairy sector since Operation

Flood. However, with changing external and internal environments, many of the dairy cooperatives are facing huge challenges, suffering from poor governance, limited autonomy, inadequate professionalism and weak financial strength, which have affected their growth and financial viability.

Reforms in State cooperative legislations to align them with the 97<sup>th</sup> Amendment of the Constitution of India would help address many of the issues relating to governance of dairy cooperatives. States have to understand that by allowing the cooperative to function as truly autonomous business enterprises, it is possible to achieve growth in their milk business which will ultimately benefit the farmers and contribute to alleviating agrarian distress in many parts of the country.

### Climate change

Climate change has been posing several new challenges in agriculture and is negatively impacting milk production. Going forward, exotic dairy breeds will be more and more susceptible to the ill effects of climate change and indigenous dairy breeds which are more climate resilient in terms of disease resistance and heat tolerance need to be promoted. At the same time, an efficient and climate resilient feeding system needs to be promoted which will make the growth of dairy industry more sustainable in the long run.

### Product and Marketing Mix and Volatility of markets

Our dairy industry is still at a nascent stage in terms of production and marketing of specialized, value added products. This segment of the market, as per industry estimates is growing at a healthy rate of over 15% per annum and is likely to grow even faster in future. Most of the dairy units operating in India do not have the desired product portfolio and product mix catering to the present and future demand of milk and milk products. It therefore offers huge opportunity for our dairy industry for diversification.

In a liberalized environment, market forces will increasingly play an important role in the dairy sector where even small demand – supply gaps in milk would cause spikes or dip in prices with the consequential impact of affecting the financial viability of the dairies with serious adverse impact on the milk producers. In surplus years such as this year, when the market is unusually subdued, processors would restrict milk procurement and cut prices. In such an event, substantial volumes of milk would get



diverted to the cooperatives which have some sort of a social obligation to support milk producers by procuring whatever quantity is offered thus adversely impacting their financial viability.

To tide over such situations which would arise once in every 4 to 5 years, producers organization and dairy cooperatives can think of creating and building a corpus fund to manage risks by setting aside a small portion of the surplus in good years which they can use in bad years to manage their inventories without resorting to cuts in producer prices or imposing restrictions on procurement. With an annual turnover of about ₹ 60,000 crores producer owned institutions including cooperatives surely have the combined strength to build a corpus by setting aside a small amount of 1% of the revenue which would amount to ₹ 600 crore per annum. This amount will be the value of 40,000 MT of SMP. The cooperatives/producer owned institutions can get together and introduce this system to take care of their problem in bad years instead of looking for external aid Central government can consider to provide income tax exemption to this corpus and states may also contribute a token amount to encourage cooperatives to create such a corpus. This is one way in which price stabilization can be achieved and our dairy farmers can be insulated from the uncertainties of market volatility.

**Concluding remarks**

Given the growing market for milk and milk products on the one hand, and the untapped potential in the dairy sector in our country on the other, dairying offers a great opportunity to increase employment, incomes and livelihoods in rural areas. As a large portion of our rural population is young, we need to propagate modern dairying and livestock management practices which are technology driven and are efficient.

While embarking on the journey from “Sufficiency to Efficiency” or rather “Sufficiency through Efficiency” we need to work together to achieve various aspects of efficiencies in the Dairy Sector, such as:

- Production efficiencies by provision of high quality genetic germplasm to milk producers and suited genetic material to milk producers;
- Operational efficiencies by delivering the products or services to producers as well as customers in the most cost-effective manner and also ensuring that high quality of products and services are delivered;
- Processing efficiencies by ensuring that we have

state of the art plant and machineries, qualified and trained manpower, facilitating ICT systems etc. and all the processes are carried out efficiently; and

- Technical efficiencies in terms of Research and Development in the sector so that larger and high quality outputs are achieved with same inputs. Here our focus needs to be on the research which are in convergence with the need of the industry and implementation ready.

In the coming years, it will be possible to maintain our self-sufficiency in milk only through “efficiency” and when all stakeholders, including milk produces, processors, producer institutions, supporting institutions, service providers and dairy professionals work together to improve efficiencies at all levels of operations to make our dairying competitive, as well as socially, economically and environmentally sustainable.

The recent announcement of Government of India in this year’s Union Budget for the dairy sector such as introduction of Animal Husbandry Infrastructure Development Fund (AHIDF) along with the existing “Dairy Processing and Infrastructure Development Fund” (DIDF), higher allocation for the dairy sector by about 36%, extension of the Kisan Credit Card for dairy farmers, income tax relief for Farmer Producer Organizations and other new initiatives like Galvanizing Organic Bio-Agro Resources Dhan (GOBAR-DHAN) for management and conversion of cattle dung and solid waste in farms to compost, biofertilizer, bio-gas, bio CNG and facilitating purchase of surplus solar power produced by farmers will go a long way in spurring growth in the dairy sector and help enhance farmers’ income and welfare.

Thank you.





# inaugural session

## Address

By

**Mr. Anil X., IAS**

*Secretary, Department of Animal Husbandry and Dairy Development Department, Govt. of Kerala and Vice Chancellor at Kerala Veterinary and Animal Sciences University*

Hon'ble Minister for Animal Husbandry and Dairying, Forests and Zoos, Adv. K. Raju; Dr. G.S. Rajorhia, President-IDA; Mr. C.P. Charles, Chairman IDA (South Zone); Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC, respected dignitaries and delegates, farmers, ladies and gentleman, I am extremely happy and privileged to be a part of the Dairy Industry conference being held here in Cochin. Being Secretary to Government of Kerala in charge of Department of Animal Husbandry, I take it as my first duty to welcome you all to my State. Mr. Charles and Dr. Geevarghese have taken wonderful steps to make your stay comfortable. Their team of officers, for last several days and months, have been doing their best to make this conference a grand success – if there are any shortcomings, kindly bear with us.

The theme of this conference is “Dairying – Sufficiency to Efficiency”, we are all proud of the fact that we are the largest milk producing country in this world, in terms of productivity. Still, we have to go a long way to catch up with the advanced nations in this field. The deliberations, accordingly, should be focused on these aspects and towards major chain of activities from framers to consumers. It is about efficiency in everything. Experts here will deliberate on it and give suggestions and the Central Government will take policy decisions to boost up productivity for the farmers of our great country. Our farmers live in villages and India cannot make progress without them. Kerala Minister has declared that we would become self sufficient in the production of milk and meat. This is a consumer state; we depend upon our neighboring states for all consumer goods including vegetables. Kerala has experienced tremendous change in last two years in the production of milk. So our aim is to bring not only self sufficiency, we have to produce what is required for other states. Kerala has progressed due to the dynamic



leadership of our Hon'ble Minister, Adv. K. Raju, who is moving ahead with a clear vision. As he mentioned, the policy initiative of Government of India is to double the income of farmers within a period of 5 years, that is, till 2022. Hence our slogan ‘Dairying — Sufficiency to Efficiency’, was apt and in tune with the policy declaration of Government of India which has been adopted by almost all the states of India.

To increase income of the farmers, we have to bring about a lot of innovation and I think that these three days will witness such deliberations for bringing about very good policy declarations to be adopted by the State and Central Government. I wish success for all the deliberations to come.

Thank you very much.



# Address

By

**Dr. Bandla Srinivas**  
*Secretary, IDA (South Zone)*

**P**resident-IDA Dr. G.S. Rajorhia; Hon'ble Minister of Animal Husbandry and Dairying Adv. K. Raju; Secretary, Animal Husbandry and Dairy Development and Vice Chancellor, Kerala Veterinary and Animal Sciences Mr. Anil X; Chairman, IDA (SZ), Mr. C.P. Charles, and Secretary General, 46<sup>th</sup> DIC Dr. P.I. Geevarghese.

On behalf of IDA's South Zone and Kerala State Chapter, we are very grateful to receive your love and affection.

We can negotiate for peace across countries, we can reduce the soldiers, but we cannot negotiate a farmer and farmer's livelihood because he is the center of our society, the nucleus of our society. When you create a nuclear fallacy it results in social degeneration. It is not our duty to protect the farmer, it is the responsibility of society to protect the farmer, and retain the culture of the farmer.

Thank you.



February 8-10, 2018, Kochi





## inaugural session

### Vote of Thanks

By

**Dr. P.I. Geevarghese**  
*Secretary General, 46<sup>th</sup> DIC*

Hon'ble dignitaries on and off the dais, most respected academicians and industrialists, our dearest farmers – the back bone of India's dairy industry, seniors, colleagues, students and friends.

Today it is a day of joy and pride for Indian Dairy Association (South Zone) and Kerala Chapter. We have been working relentlessly for last five months to make the 46<sup>th</sup> Dairy Industry Conference (DIC) a memorable event. We are proud that we are bringing the DIC to Kerala after an interim of 30 long years. The Conference has just been inaugurated by our Hon'ble Minister Adv. K. Raju and the next three days will provide remarkable experience to the farmers, industrialists, students and all participants. The technical sessions of the conference would deliberate on a variety of topics including milk production, application of technology and engineering in milk processing, nutritional aspects, value addition, finance and marketing etc. The Exhibition which will be opened after this function by the Hon'ble Minister, shall display the elegance of Indian dairy industry and I wish all the delegates a delightful experience at the Adlux Convention Center and of course in Kerala, God's own country. It is a pleasure to inform our delegates that for the first time in the history of DIC, the company stalls for the Exhibition have been booked months in advance. We are extremely sorry for the industries who could not participate in the exhibition.

I feel privileged and honored for having been given the responsibility of proposing a vote of thanks. As the Secretary General of this conference, let me take this opportunity to congratulate the newly-elected President of Indian Dairy Association Dr. G.S. Rajorhia, and for delivering the Presidential address. Hon'ble Minister for Animal Husbandry and Dairy Development, Advocate K. Raju is the driving force behind the dairy development activities in the state of Kerala, and we are thankful that he inaugurated the Conference and elated us with the meticulous speech about the growth and prospects of Dairy. Sir, the Indian Dairy Association is very thankful to you for inaugurating the Conference, presenting the



Awards and Fellowships, and releasing India Posts my stamp with 46<sup>th</sup> DIC Logo which happened for first time in the history of DIC. I take this opportunity to congratulate all the award winners, the women dairy entrepreneurs, Patrons and Fellows who have received awards today. I extend special appreciation to Mr. P.T. Gopalakurup, Chairman of Kerala Milk Marketing Federation who spearheads the state dairy organization, for winning the prestigious "Dr. Kurien Award". Mr. Dilip Rath, Chairman, NDDB, the legendary dairy board of the country gave a message which is pertinent in the present dairy scenario. I thank you sir for your graceful presentation. I extend my gratitude to Dr. R.R.B. Singh, Director, National Dairy Research Institute who released the souvenir, we are thankful for your presence and appreciation. I thank Mr. Anil X., IAS, Secretary for Animal Husbandry and Dairy Development, Government





## Conference Special (Part - 1)

of Kerala and also acting Vice Chancellor of Kerala Animal Science University for his good wishes for DIC. I extend my sincere thanks and gratitude to Mr. C.P. Charles, Chairman, IDA (SZ) who has done a wonderful job in organizing this program. He has always been our driving force. I am also thankful to the Secretary of IDA (SZ) Dr. Bandla Srinivas for extending support for organizing this conference. I am also thankful to all IDA members, fellows, awardees, Central Executive Committee members, Zonal Executive Committee members and other important personalities who have come here to grace the occasion. The speakers, session handlers, evaluators, various committee members and our well wishers here, our partners in the exhibition, transport and accommodation, venue, program etc., who are here, I extend my gratitude for their help and support for this program.

The most important part of any conference is support extended by the various committees that have been formulated. I am grateful and thankful to all committee members, who have associated with the implementation of the DIC in the most successful way. I am also grateful to sponsors, exhibitors, delegates and volunteers gathered here to make this program a grand success. I thank each and every one of you for your assistance and wish all the best. Moreover, I am thankful to students and staff from the College of Dairy Science and Technology, Mannuthy and Pookode, Trivandrum and Food Technology College and also both Technology College of Mannuthy and

Pookode, they have helped me a lot in organizing the programs in a successful manner.

I hope that the delegates who have come from the different parts of the country will enjoy their stay and go back with lot of pleasant memories. We have made all possible arrangements for making you participate in the conference without any difficulties. The success of a conference depends on how it is carried over to the public through Press media, Print media and Visual media. The coverage of the program is done extensively by all three and I am extremely thankful to all the media personals who have come over here to report our program. I hope that in coming two days also they will be here for reporting the details of the program.

We have arranged cultural program today and tomorrow, after the official program. It will reflect the cultural heritage of Kerala and I request all of you to attend these cultural programs also. When a program is conducted and when there are more than 2,200 persons attending, definitely there will be some lapses. I admit that and I request you to bear with us, if there are any lapses in the arrangement of food or transport. We are trying our best to have a pleasant conference. Unfortunately due to some unforeseen reason some lapses might be there but please bear with us.

With that I would like to conclude my vote of thanks. Once again I thank all of you for your kind presence and wish you all the best.

Thank you.

February 8-10, 2018, Kochi





## a report

# A Bird's Eye View of 46<sup>th</sup> Dairy Industry Conference

By

**Dr. P.I. Geevarghese**  
*Secretary General, 46<sup>th</sup> DIC  
and Chairman, IDA Kerala Chapter*

After a span of 30 years, Dairy Industry Conference, the flagship programme of Indian Dairy Association (IDA) was organized in Kerala from Feb. 8<sup>th</sup> - 10<sup>th</sup>, 2018. The 46<sup>th</sup> DIC held at the Adlux Convention and Exhibition Centre, Anagamali, Kochi was the third to be conducted in Kerala. Under the management of IDA (SZ), the programme was orchestrated by IDA — Kerala Chapter. The theme of the conference 'Dairying: Sufficiency to Efficiency', intended to explore the various approaches to elevate our national dairy sector from adequacy to excellence.

A six month long preparation indeed has created pride and appreciation. The three days went by methodically and with ease. It is unconditionally accepted that 46<sup>th</sup> Dairy Industry Conference was a big success and matched at superior levels with the previous conferences. The total number of registrations (Paid + free) was 2076, the highest among the conferences held in the south. It was for the first time that online registration of delegates was done and 1289 delegate registrations were done online.

The Conference was inaugurated by Adv. K. Raju, Hon'ble Minister for Forests, Animal Husbandry, Dairying and Zoos, Govt. of Kerala. The inaugural function was

adorned by Dr. G.S. Rajorhia, President-IDA, Dr. R.R.B. Singh, Director, NDRI; Mr. Anil X., IAS - Secretary, Department of Animal Husbandry and Dairy Development Department, Govt. of Kerala and Vice Chancellor at Kerala Veterinary and Animal Sciences University and Dr. Bandla Srinivas, Secretary, IDA (SZ). Mr. P.T. Gopala Kurup, Chairman of KCMMF was endowed with the prestigious Dr. Kurien Award 2018. Fellowships and Patronships of IDA were conferred upon outstanding dairymen and dairywomen of the country. Four best women dairy entrepreneurs from four zones were also awarded. The welcome address was given by Mr. C.P. Charles, Chairman IDA (SZ) and Dr. P.I. Geevarghese, Secretary General proposed the vote of thanks. Release of India Posts my stamp with 46<sup>th</sup> DIC Logo and inauguration of the Exhibition was also done by the Honourable Minister. The keynote address of Chairman, NDDDB was delivered at the Conference.

The first day saw the dignified inaugural session followed by Farmers' Sessions and Poster session. 46<sup>th</sup> DIC witnessed the first ever eco-friendly approach of E-Poster Presentation. 101 selected posters were displayed using presenter-friendly software developed in-house under four different themes.







## Conference Special (Part - 1)



Eminent Scientists from different disciplines of Dairy Science and Technology evaluated the posters. The session was overwhelmed with positive response on its execution from the participants and viewers of DIC.

The International Exhibition on dairy farming, processing, packaging, distribution and products had the maximum footfalls and was impressive; as received from the feedback of the visitors. There were 124 stalls which showcased the scope and elegance of Indian dairy industry. It is estimated that more than 15,000 people visited the exhibition. Koelnmesse Trade Fair Ltd. did a good job in organizing the splendid exhibition.

The first day witnessed the Curtain Raiser Lecture delivered by Dr. P.P. Aneja, Patron and Former President, IDA and Former Managing Director, NDDDB prior to the inauguration session which commenced with the screening of the curtain raiser video of two minutes. The technical sessions started in the evening, which continued for the next two days with eminent speakers from varied fields of dairying. Parallel sessions ran relentlessly at three venues.

In 17 sessions, 54 Speakers presented diverse subjects on dairying. In the technical sessions there were intense discussions revolving around the theme — 'Dairying: Sufficiency to Efficiency'. In the second day, Dr. V. Kurien Memorial Oration Lecture was delivered by Dr. D. Babu Paul, IAS (retd.) former Additional Chief Secretary, Govt. of Kerala.

The success of 46<sup>th</sup> Dairy Industry Conference is only because of the hard work, support, assistance and determination of a group of experienced elders and talented youngsters. The students of Dairy Technology and Food Technology under the guidance of organizers contributed remarkably as volunteers. They were given T-shirts and caps and its blue overflowed in the conference. The

cultural programmes organized on the first two days were entertaining and displayed the ethnicity of Kerala traditions.

The efforts of the members of various Organizing Committees of 46<sup>th</sup> DIC should be applauded for the flawless conduct of the programme. The contribution by IDA (HQ) and IDA (SZ) was remarkable. CEC and ZEC members, faculty of the College of Dairy Technology and College of Veterinary and Animal Sciences (KVASU) contributed to the maximum. Many acted as Chairman, Co-Chairman, Convener and Rapporteur to the various sessions. The platinum, gold and silver sponsors; and the sponsors of lunch/dinner, advertisers and accessories etc. contributed in a big way for the success of the conference.

The valedictory session had the presence of Dr. G.S. Rajorhia, President-IDA; Mr. C. Kamaraj IAS, MD, Aavin; Mr. P.T. Gopalakurup, Chairman, KCMMF; Mr. Arun Narke, Past-President, IDA; Dr. N. Balaraman, Former Vice Chancellor, Tamil Nadu Veterinary and Animal Sciences University; Mr. T.K. Mukhopadhyay, CEC Member-IDA; Mr. C.P. Charles, Chairman, IDA (SZ) and Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC. The appreciation mementos were given to the major contributors to the conference including the sponsors. Mr. C.P. Charles, Chairman, IDA (SZ) and Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC were honoured eloquently for the grand success of the Dairy Industry Conference.

The 46<sup>th</sup> Dairy Industry Conference 2018 has set novel benchmarks with regard to its planning and organization. Its memories shall obviously linger in the minds of the participants with the spice, flavours and hospitality of Kerala — God's Own Country.

February 8-10, 2018, Kochi





# 46<sup>th</sup> Dairy Industry Conference



## സാമ്പത്തിക പങ്കാളിത്ത കരാറിൽ നിന്ന് ക്ഷീര മേഖലയെ ഒഴിവാക്കണം: മന്ത്രി

ഡെന്തറി ഇൻഡസ്ട്രി കോൺഫറൻസ് മന്ത്രി ഉദ്ദേശിക്കുന്ന ചെറിയത്

അങ്കമാലി • കേരളത്തിലെ ക്ഷീരകർഷകർക്ക് ഉദാരമായ പതിനാറു രാജ്യങ്ങൾ തമ്മിലുണ്ടാക്കിയ മേഖല സഹായത്തിനുള്ള പങ്കാളിത്ത കരാറിൽ (ആർസിഇപി) നിന്നു ക്ഷീര മേഖലയെ ഒഴിവാക്കണമെന്നും മന്ത്രി കെ. രാജു ആവശ്യപ്പെട്ടു. ഇന്ത്യൻ ഡെന്തറി അസോസിയേഷൻ സഹിഷ്ണുതയോടെ ഡെന്തറി ഇൻഡസ്ട്രി കോൺഫറൻസ് ഉദ്ദേശിക്കുന്ന ചെറിയത്



ഡെന്തറി ഇൻഡസ്ട്രി കോൺഫറൻസ് മന്ത്രി കെ. രാജു ഉദ്ദേശിക്കുന്ന ചെറിയത്

പാലുൽപ്പാദനത്തിൽ സൗഹൃദമായ നേട്ടം നേടുന്നതിനുള്ള പദ്ധതികൾ സമയബന്ധിതമായി നടപ്പാക്കും. ആർസിഇപി കരാർ ഈ വർഷം നവംബറിൽ ഒപ്പു വെക്കുന്നതിനു മുന്നോടിയായി

കേന്ദ്ര സർക്കാർ പ്രവർത്തനങ്ങൾ കുടുക്കിയിട്ടുള്ളതും മന്ത്രി

മന്ത്രി എന്തിനാണ് മന്ത്രി

സംസ്ഥാന

## 'Leave out dairy sector from RCEP's ambit'

EXPRESS NEWS SERVICE @ Kochi

THE Centre should take the state governments into confidence before finalising the terms of the Regional Comprehensive Economic Partnership (RCEP) free trade agreement which is expected to be signed in November this year, said Minister for Forests, Animal Husbandry and Zoos K. Raju. He was speaking after inaugurating the 46th dairy industry conference organised by the Indian Dairy Association (IDA) at Angamaly on Thursday. The

minister urged the Centre to visit and revise the objectives of the RCEP to insulate the dairy sector against competition from the developed West.

"It may be noted countries like Australia and New Zealand which have recorded excess milk production are the leading dairy exporters globally. The inflow of cheap raw materials for reconstructed milk may adversely affect the market for natural milk produced by farmers in India. This is due to both the producers and consumers. Opening up the

dairy sector in haste to global competition will be a recipe for disaster unless the small-scale producers are backed by necessary policies," Raju said.

According to him, "The Centre should bring all the stakeholders to the negotiating table. Along with this, an in-depth research and analytical studies to measure the RCEP's fallout on the dairy sector should be conducted. It is pretty important for the government to seek active engagement of dairy farmer groups to save the country's

dairy sector." The minister presented the Varghese Kurian Award to Milma chairman P T Gopalakurup and Dairymaan of the Year Award to P B Jini of Thiruvananthapuram. Ruby Thakur, Neetu Yadav and Prachi Abhay Patil also shared the Indian Dairy Association patronship awards were

## Minister calls for hike in dairy output

SPECIAL CORRESPONDENT KOCHI

K. Raju, Minister of Forests, Animal Husbandry and Dairy Development, on Thursday said that research should sharpen focus on increasing milk production.

The Minister, while inaugurating a three-day national meet of those working in the field of dairy development, said the local breed of cattle had high resistance against diseases but were low in milk production.

The revelation in the 2017-18 Economic Survey report that the growth rate in farm-related sectors had plunged from 4.1% to 2.1%

was depressing. This happened just when the Centre was claiming to have taken measures to increase the income of farmers.

For the growth rate to be maintained, it was important to train focus on milk production and overall efficiency in the farm sector, he said.

The opening up of the dairy sector to global competition without providing policy-based support to primary dairy farmers would lead to a huge disaster, he said. Indian Dairy Association president G.S. Rajorhia presided over the event.

## ക്ഷീര മേഖലയിൽ സ്വയംപര്യാപ്തത ലക്ഷ്യമിട്ട് കേരളം

സംയോജിത സാമ്പത്തിക പങ്കാളിത്ത കരാറിൽ നിന്ന് ക്ഷീര മേഖലയെ ഒഴിവാക്കണം: മന്ത്രി കെ. രാജു

അങ്കമാലി: പാൽ ഉല്പാദന വർദ്ധനവ് ലക്ഷ്യമിട്ട് ക്ഷീരമേഖലയിലെ പ്രവർത്തനങ്ങൾ ഏർവ്വരുന്നതിനായി ക്ഷീരകർഷകരുടെ വലുപ്പം മന്ത്രി കെ. രാജു പറഞ്ഞു. പാലുൽപ്പാദനത്തിൽ സൗഹൃദമായ നേട്ടം നേടുന്നതിനുള്ള പദ്ധതികൾ സമയബന്ധിതമായി നടപ്പാക്കണം. ആർസിഇപി കരാർ ഈ വർഷം നവംബറിൽ ഒപ്പു വെക്കുന്നതിനു മുന്നോടിയായി



Dr. KURIEN AWARD 2018

മന്ത്രി കെ. രാജു ഉദ്ദേശിക്കുന്ന ചെറിയത്

കാലിത്തീറ്റി ഉത്പാദനം കഴിഞ്ഞിട്ടുണ്ട്. ഇതേസംസ്ഥാനത്തേക്ക് അടുത്തുണ്ടാകുന്ന പാലുൽപ്പാദന കേന്ദ്രം സർക്കാർ നൽകിയിട്ടുണ്ട്. കാലിത്തീറ്റി ആവശ്യമായ മരുന്നുകളും വാക്സിനുകളും മറ്റ് സഹായങ്ങളും അഭ്യർത്ഥിക്കേണ്ടി വരുന്നതാണ് ഇതിന് കേന്ദ്ര സർക്കാർക്ക് അഭ്യർത്ഥിക്കേണ്ടി വരുന്നതാണ് ഇതിന് കേന്ദ്ര സർക്കാർക്ക് അഭ്യർത്ഥിക്കേണ്ടി വരുന്നതാണ് ഇതിന്

മന്ത്രി കെ. രാജു ഉദ്ദേശിക്കുന്ന ചെറിയത്

അതേസമയം കേന്ദ്ര ഈ വർഷം നവംബറിൽ ഒപ്പു വെക്കുന്നതിനു മുന്നോടിയായി



# COLLEGE



## *Impressions*

*of the*

# **46<sup>th</sup> Dairy Industry Conference**

*held at*

**Adlux International Convention and Exhibition Centre  
Angamaly, Kochi, Kerala**

*during*

**February 08<sup>th</sup>-10<sup>th</sup>, 2018**

*on the theme*

**Dairying — Sufficiency to Efficiency**







**The Curtain Raiser Lecture**

This was delivered by Dr. R.P. Aneja, Past President and Patron of IDA and Former Managing Director, NDDB, before the commencement of the Inaugural Ceremony. The Curtain Raiser Lecture was held for the first time at DIC.



**Dignitaries grace the dais for the Inaugural Function**

(L to R): Dr. Bandla Srinivas, Secretary, IDA(SZ); Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC; Mr. C.P. Charles, Chairman, IDA (SZ); Adv. K. Raju, Hon'ble Minister for Forests, Animal Husbandry, Dairying and Zoos, Govt. of Kerala; Dr. G.S. Rajorhia, President-IDA; Dr. R.R.B. Singh, Director, National Dairy Research Institute; Mr. Anil X., IAS, Secretary, Department of Animal Husbandry and Dairy Development Department, Govt. of Kerala and Vice Chancellor at Kerala Veterinary and Animal Sciences University



**Ceremonial Lighting of the Lamp**

The dignitaries on the dais are (L to R): Dr. Bandla Srinivas, Secretary, IDA(SZ); Mr. C.P. Charles, Chairman, IDA-SZ (partially visible); Adv. K. Raju, Hon'ble Minister for Forests, Animal Husbandry, Dairying and Zoos, Govt. of Kerala; Dr. G.S. Rajorhia, President-IDA; Dr. R.R.B. Singh, Director, National Dairy Research Institute; Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC; and Mr. Anil X., IAS, Secretary, Department of Animal Husbandry and Dairy Development Department, Govt. of Kerala and Vice Chancellor at Kerala Veterinary and Animal Sciences University.



**Kerala witnesses its 3<sup>rd</sup> DIC**

Adlux International Convention and Exhibition Centre Angamaly, Kochi, Kerala. The verdant and pristine setting in "God's Own Country" was the venue for the 46<sup>th</sup> DIC



Welcoming delegates in traditional Malyali fashion





The Chief Guest being escorted by the organizers for the Inaugural Function.



The Chief Guest, Adv. K. Raju, Hon'ble Minister for Forests, Animal Husbandry, Dairying and Zoos, Govt. of Kerala delivering his Inaugural address



Presidential address by Dr. G.S. Rajorhia, President-IDA



Mr. C.P. Charles, Chairman, IDA (SZ) delivering his Welcome address



Mr. Anil X., IAS, Secretary, Department of Animal Husbandry and Dairy Development Department, Govt. of Kerala addresses delegates at the 46<sup>th</sup> DIC



Dr. Bandla Srinivas, Secretary, IDA(SZ) felicitating the august gathering



Vote of thanks being delivered by Dr. P.I. Geevarghese, Secretary General, 46<sup>th</sup> DIC



The prestigious 'Dr. Kurien Award' being bestowed upon Shri P.T. Gopalakurup, Chairman, MILMA by the Chief Guest. 'Dr. Kurien Award' instituted in 1991 is the highest dairy award and is given in recognition of exemplary achievements and contributions in the field of Indian dairying.



The Hon'ble Minister also released India Posts My Stamp with the 46<sup>th</sup> DIC logo on the occasion.

The Souvenir of 46<sup>th</sup> DIC — a treasured repository of information — was released by Dr. R.R.B. Singh, Director, NDRI



Kochi was host to one of the most widely attended Conferences with over 2000 delegates attending the 46<sup>th</sup> DIC







**The Dairy Achievers!**  
Patrons, Fellows and Dairy Women Honoured by IDA

Patronship  
being conferred upon outstanding  
dairymen by the Chief Guest.



Dr. R.M. Acharya  
former DDG (AS), ICAR,  
New Delhi



Dr. R.S. Khanna  
Chairman, Kwality Ltd.



Mr. R.G. Chandramogan  
Chairman and MD, Hatsun  
Agro Product Ltd.

Fellowship  
For their valuable contribution to the dairy sector, Fellowships  
were conferred by the Hon'ble Minister.



Dr. N. Balaraman  
Former VC, TANUVAS



Dr. R. Chattopadhyay,  
Advisor, GCMMF



Dr. R.K. Malik  
Former Joint Director  
(Research), NDRI, Karnal  
& Executive Editor, IJDS



Dr. P.I. Geevarghese  
Secretary General,  
46<sup>th</sup> DIC



Mr. D.V. Ghavekar  
Managing Director,  
Gokul Milk Union



Dr. Latha Sabikhi  
PS & Head, Dairy  
Technology, NDRI,  
Karnal



Mr. Dilip Sarda  
Founder-Director,  
Synergy Agro-Tech Pvt. Ltd.

**Women Empowerment!**

The contribution of women in the dairy sector is unparalleled. IDA  
felicitates exemplary Indian dairy women from the four zones of the  
country for their pioneering efforts in the field of dairying.



Ms. Jini P.B. from  
IDA (South Zone)



Mrs. Nitu Yadav  
from IDA (North Zone)



Representative of Mrs. Rubi  
Thakur from IDA (East Zone)  
receiving the award on  
her behalf



Mrs. Prachi Abhaya Patil  
from IDA (West Zone)





**Farmers' Sessions at a glance**



*Some speakers at the Farmers' Sessions*



**Dr. Verghese Kurien Memorial Oration Lecture**  
By  
**Dr. D. Babu Paul, IAS (Retd.),**  
*Former Additional Chief Secretary, Govt. of Kerala*



**Valedictory Session**



*Dignitaries at the Valedictory Session*

*Prayer at the beginning of Valedictory Session*



*Dr. R Rajendra Kumar  
Former Dean, KVASU, Thrissur  
reading out the message of the  
Hon'ble Prime Minister  
Mr. Narendra Modi*



*Mr. C. Kamraj, IAS  
MD, Aavin delivering  
his address*



*Mr. P.T. Gopalakurup  
Chairman, MILMA  
addressed the gathering*





Recommendations being read by Dr. A.K. Beena, Professor, KVASU and Vice Chairperson, Technical Committee at the Valedictory Session



Mr. Rajesh Lele, Secretary General of the 45<sup>th</sup> DIC held in Feb. 2017 at Mumbai being honoured at the Valedictory function

Salute to the Organizer! Mr. C.P. Charles, Chairman, IDA (SZ) being felicitated at the culmination of 46<sup>th</sup> DIC



**Awards and Accolades!  
Best Paper and Best Poster**



**Dairy Exhibition  
at 46<sup>th</sup> DIC**



An Exhibition on Dairy Farming, Processing, Packaging, Distribution and Products with 124 stalls was held at the 46<sup>th</sup> DIC. The prize for the best stalls went to GEA Process Engineering (India) Pvt. Ltd., and Fill Pack Technology

*The team effort that led to the successful organization of the Conference*







## Arts and Aesthetics

The rich cultural heritage of Kerala depicted in all its artistic beauty and grandeur. Known for its classical dance forms, the Cultural Events on two days were a veritable treat for the senses.



Aesthetic portrayal of centuries-old tradition and art-forms. Artists performing the various classical dances in God's Own Country



The melodious renditions on musical instruments adding to the ethereal beauty of the cultural evenings





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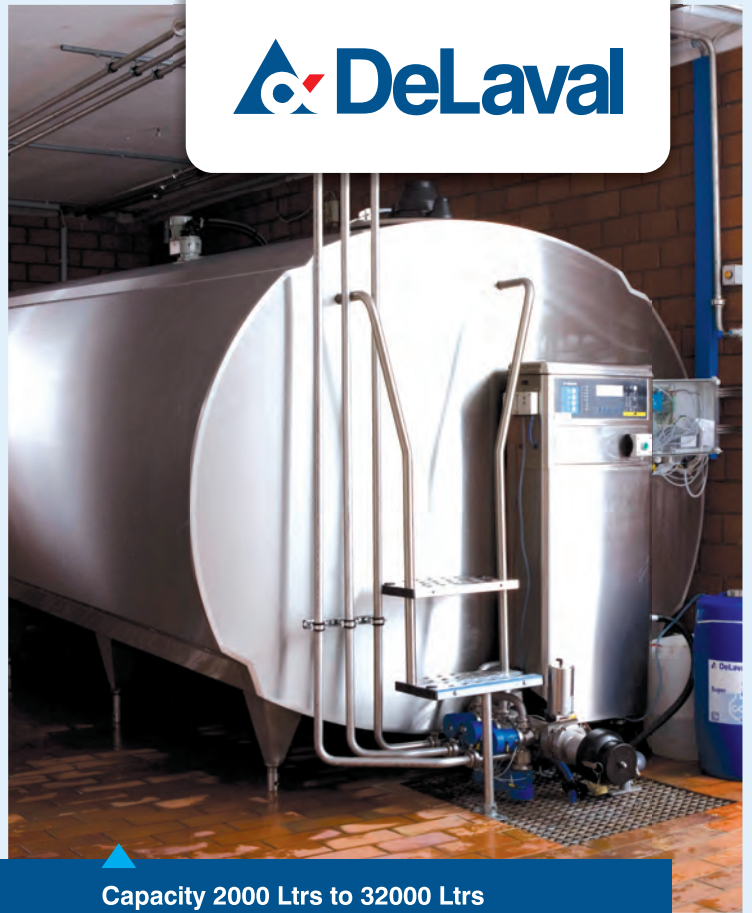


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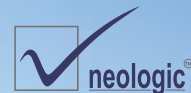
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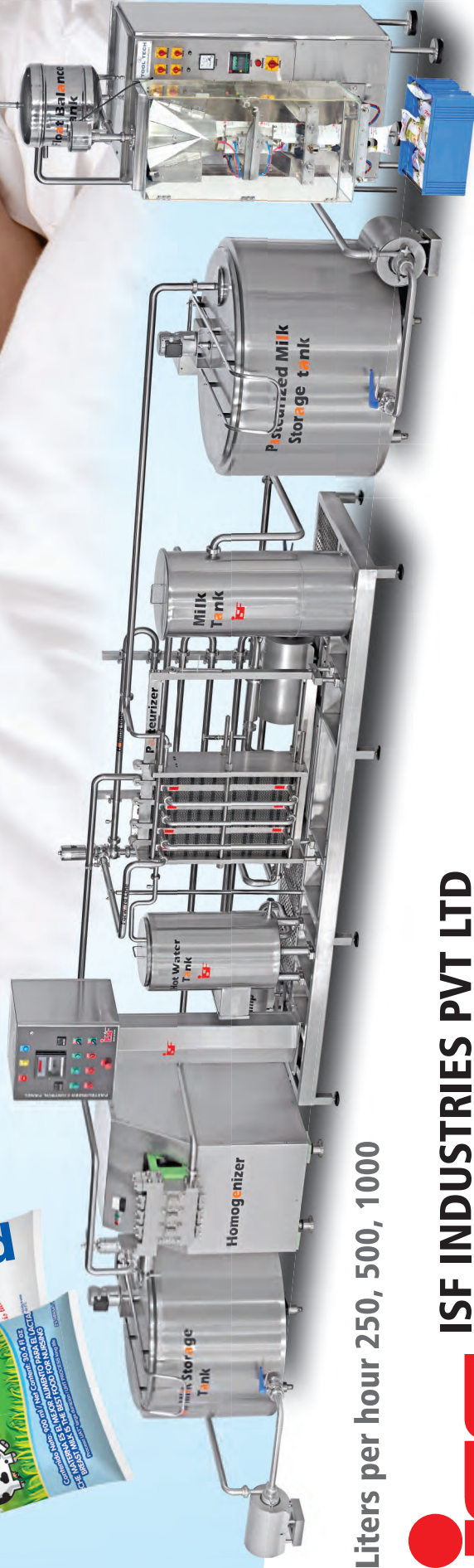
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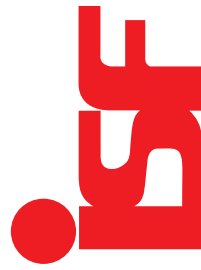


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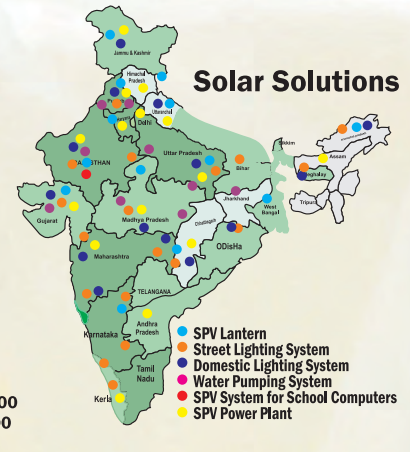
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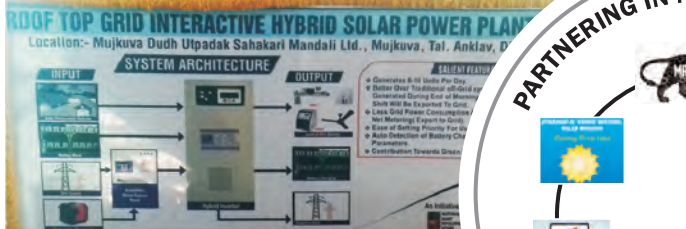


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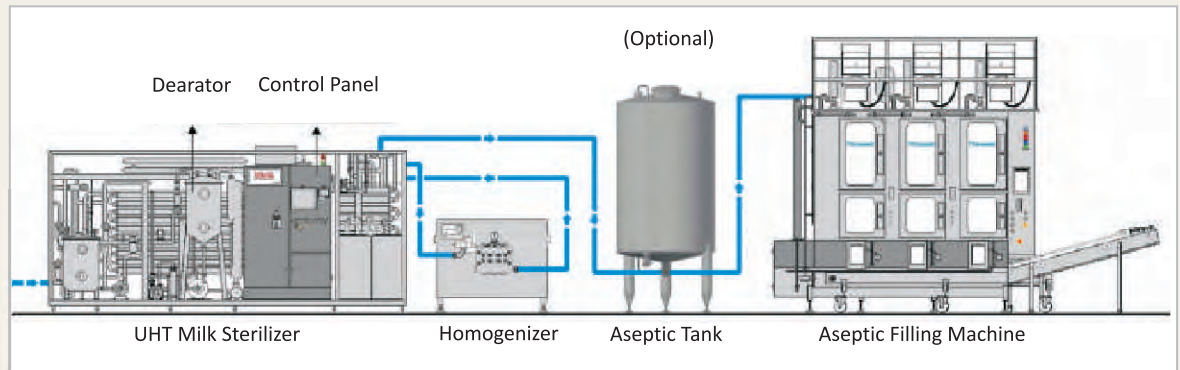
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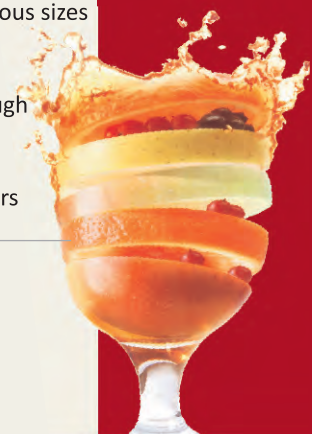


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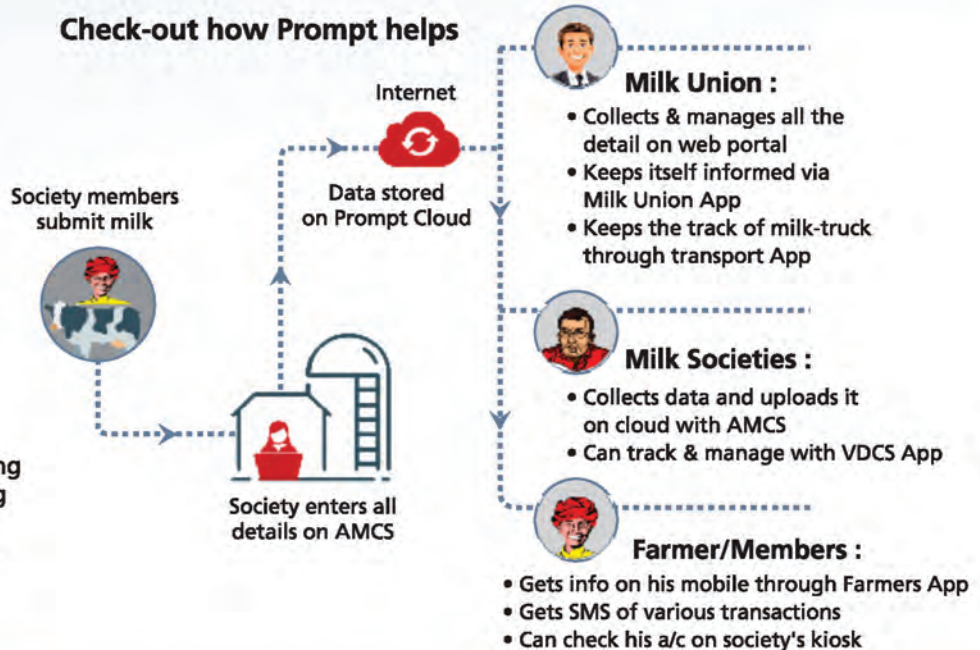
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• Indiz Milk Analyzer



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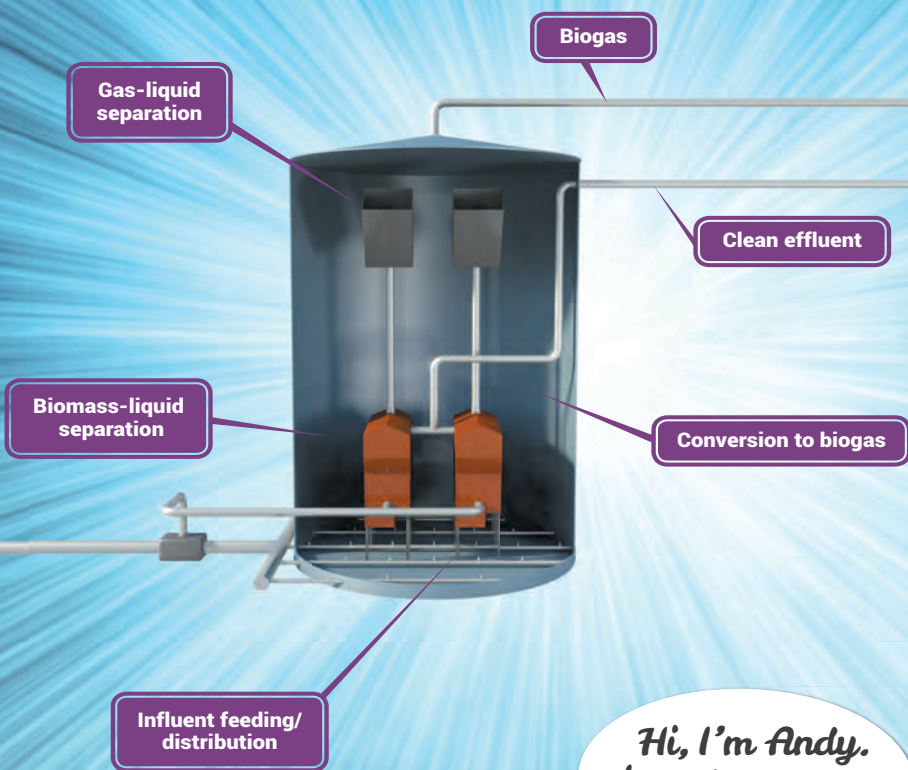
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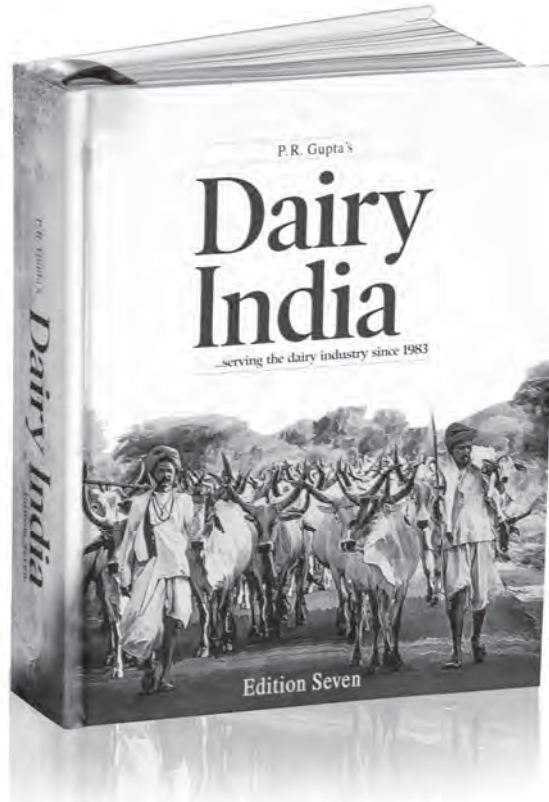
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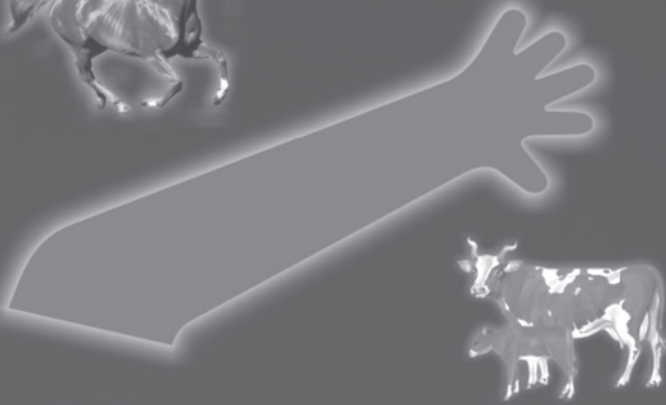
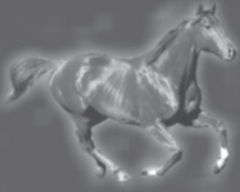
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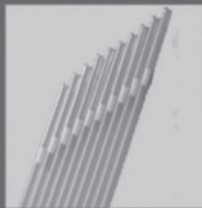
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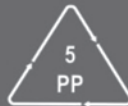
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# Farmers' Session

**There were two Farmers' Sessions presided over by Dr. G.S. Rajorhia, President-IDA.**



The President, IDA extended a warm welcome to the participants at the Farmers' sessions. He said that during the two Farmers' sessions problems of national significance and the local milk producers needed to be discussed. The issues which directly impact the economy of milk producers and high input costs would be focused. He said the Conference had identified learned speakers to highlight the problems encountered by milk producers in India.

The various participants spoke at length about their experiences in the field of dairying.

Mr. P.J. Choudhary, Director of Banas Dairy, Gujarat mentioned that dairy farming integrated with agriculture and sericulture was successful in increasing farmers' income in his region. He suggested the need for providing 0% interest rate loan to dairy farmers, integration of dairy farming with agriculture and associated activities such as honey production and potato processing on cooperative lines.

Dr. D.N. Hegde, Director(AH), KMF, Karnataka stressed the need for providing area specific mineral mixture at 50% subsidy for increasing animal productivity. He remarked that for each dairy society, one AI center was essential for efficient AI. He told that their Federation was providing incentive to inseminators on monthly

basis. He also elaborated on the schemes of KMF-Sanjeevani and Ksheera Bhagya. The formation of Farmers Welfare Trust by KMF was beneficial to women beneficiaries.

Mr. A.P. Sinha, agribusiness professional from Haryana stressed the need for availability of sexed semen in India which at present is being imported. He highlighted the problems faced by medium/large dairy farms and also suggested that farm and fodder mechanisation would help in considerable reduction in labour costs. Value addition and technology inclusion in farming was the need of the hour. He stressed the need for regular monitoring of somatic cell count of milk to estimate the quality of milk.

Adv. N Rajan, Chairman, Kerala Dairy Farmers Welfare Fund Board pointed out the need for social security for milk producers including pensionary provision, family health and cattle insurance etc.

Mr. Ram Chandra Choudhary, Chairman of Ajmer Milk Union reiterated the need for availability of sexed semen and fodder development. He suggested that National Milk Grid should be controlled by GOI and managed by NDDB so that surplus milk and milk powder could be distributed to areas where there is shortage of milk. He also remarked that the benefit of insurance schemes for accidental loss of cows must be given to farmers.



February 8-10, 2018, Kochi

He suggested that GST on ghee should be reduced to 5%, and milk could be provided as mid-day meal in school feeding programmes in different States.

In the next Farmers' Session, the farmers shared their experiences on dairy farming. A video presentation about the farming practices by Smt. C.K. Rajalekshmi, a progressive farmer from Kerala elaborated her experiences of starting a dairy farm after her husband's superannuation from the Armed Forces. She remarked that programmes of DDD, Kerala and MILMA benefited her the most. She suggested the diversification of milk for production of various value added products. The production and sale of animal wastes like gobar gas and cow urine was helpful in increasing the income of the dairy farmer. She informed that training in the manufacture of dairy products was very beneficial, especially for women dairy farmers.

Mr. Prakashan T.P. a progressive farmer from Kerala, who had received the best innovative farmer award stressed the need for integrated farming system as it was economically viable. He also remarked that effective use of solar energy for production of electricity and production of value added products was very useful for increasing farmer's income.

Mr. V. Venkatachalapathy, founder Shri Anandhaas Agros and Dairy Farm, Coimbatore, remarked that dairy farming should be a full-time profession and elaborated on how his experience in NDDDB had helped him successfully run his farm. He outlined the challenges and strategies for running a commercial dairy farm, stressing the need for less initial investment and later on mechanisation of farm. Effective breeding, feeding and health management, effective record keeping, financial management, value added

milk products and proximity to market were key factors for success of his dairy farm.

Mr. Parthibhai G Bhatol shared his views about the dairy sector and requested President-IDA to give representation to Government before the Annual Budget so that the problem of dairy farmers could be addressed.

President-IDA remarked that the participants' experiences would be published in IDA's journal as it would be useful for upcoming entrepreneurs.

**Farmers' Session 1:**

**Chairman:** Mr. P.T. Gopalakurup, Chairman, MILMA

**Co-Chairman:** Mr. Rama Chandra Choudhary, Chairman, Ajmer Milk Union

**Convener:** Dr. G. Radhika, Asst. Prof., KVASU

**Rapporteur:** Dr. Sabin George, Asst. Prof., KVASU

**Speakers :** Mr. P.J. Choudhary, Director, Banas Dairy; Dr. D.N. Hegde, Director (AH), KMF; Mr. A.P. Sinha, Agro Business Professional, Haryana; Adv N. Rajan, Chairman, Kerala Dairy Farmers' Welfare Fund Board.

**Farmers' Session 2:**

**Chairman:** Mr. Abraham T Joseph, Director, DDD, Kerala

**Co-Chairman:** Mr. P.G. Bhatol, Ex-Chairman, GCMMF

**Convener:** Dr. Justin Davis, Asst. Prof., KVASU

**Rapporteur:** Dr. Vrinda Menon, Asst. Prof., KVASU

**Speakers :** Mrs. C.K. Rajalakshmi, Progressive Farmer, Kerala; Mr. T.P. Prakasan, Progressive Farmer, Kerala; Mr. V. Venkatachalapathy, Founder, Shri Anandhaas Agros and Dairy Farm, Coimbatore.





# awards



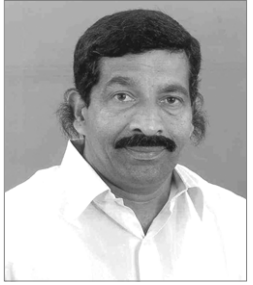
**Photographs featuring the Dr. Kurien Award, Patrons, Fellows and Dairy Women receiving their Awards have been included in the “Impressions of the 46<sup>th</sup> DIC” (pages 29-40).**

## *Dr. Kurien Award*

### **DR. KURIEN AWARD**

#### **Mr. P.T. Gopalakurup**

**M**r. P.T. Gopalakurup has been chosen as the recipient of the 12<sup>th</sup> ‘Dr. Kurien Award’- 2018 in recognition of his outstanding contribution to the Indian Dairy Industry. A renowned name in the Indian dairy sector, Mr. Gopalakurup’s illustrious career spanning 30 years speaks of exemplary achievements in the cooperative dairy sector.



nominated thrice on the Board of NDDDB between 2002 and 2012. He was also on the Board of Mother Dairy Fruits and Vegetables Ltd. during 2003-04. While continuing as Chairman, KCMMF Ltd., he was elected as Chairman, Malabar Regional Milk Producers Union Ltd from 2012-2013.

Mr. Gopalakurup has been the elected Chairman of Kerala Co-operative Milk Marketing Federation Ltd. (KCMMF, also known as MILMA), for four consecutive terms since 1999, and continues to hold the distinguished post. Leading the cooperative giant for the last 18 years, Mr. Gopalakurup has transformed Milma – having an annual sales turnover of over ₹ 2700 crore – into a well-known and immensely popular dairy brand in Kerala.

Associated with KCMMF since its inception in 1980, Mr. Gopalakurup’s remarkable leadership has seen Milma rewrite its history and achieve spectacular progress on multiple fronts. The organisation, under Mr. Gopalakurup’s guidance, ably fulfils its goal of bringing about socio-economic progress of dairy farmers and works tirelessly in its mission of ushering in “farmer prosperity through consumer satisfaction”. The success of Milma can be gauged from the fact that its membership, which stood at 45,000 in 1983, has grown to over 800,000 through 2919 milk cooperatives by mid-2017. Similarly, milk procurement has shown a tremendous growth from 52,000 litres per day in 1983 to over 12 lakh litres per day in 2017.

A self-professed lover of cattle and dairying, Mr. Gopalakurup was born in a farmer family in Wayanad district of Kerala, and through his commitment and dedication rose to become the Chairman of Kerala Cooperative Milk Marketing Federation (KCMMF). His passion and sincerity for the cause of dairy farmers earned him the support of lakhs of milk producers who depend on the organization for their livelihood.



With Mr. Gopalakurup at the helm, Milma has taken proactive steps to modernize and automate its dairy plants and has also obtained the ISO quality certification. Milma continues to diversify its products range in a bid to provide greater returns to its farmers. Today it has more than 15 products all of which adhere strictly to FSSAI standards and meet stringent quality checks. The brand, with its tagline ‘Goodness Kerala wakes up to’ has become synonymous with assured quality and acceptance by its consumers.

The reputed dairyman has served in several eminent positions in various organizations. He was



Mr. Gopalakurup's future plans include taking brand Milma to greater heights by introducing modern technology in milk procurement and processing and increased welfare measures for dairy farmers. His contribution as the leader of this organization is truly admirable.

The Dr. Kurien Award being bestowed on Mr. P.T. Gopalakurup reinforces the outstanding services he has rendered to the Indian Dairy Industry.

## *IDA Patronship*

### **PATRONSHIP**

#### **Dr. R.M. Acharya**

**D**r. R.M. Acharya has been chosen as the recipient for IDA's Patronship for the year 2017-18, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



A revered name in the field of Animal Sciences, Dr. Acharya is a Gold Medalist from Punjab University where he completed his B.V.Sc. & AH in 1956. He went on to do his MS from Ohio State University and Ph.D from Iowa State University.

Dr. Acharya was Deputy Director General (Animal Science), Indian Council of Agricultural Research from 1981-90. As DDG, the multifaceted scientist was responsible for planning, monitoring and evaluation of research in the fields of animal production, animal health, animal products technology, inland and marine fisheries, fish processing technology, fisheries education and agricultural economics and statistics.

A renowned academician, Dr. Acharya began his illustrious career as Professor at Punjab/Haryana Agricultural University in 1956 and went on to become the Head of Animal Breeding Department. He was with the University till 1970, and was responsible for planning and implementation of Research, Teaching and Extension Education programs. Later, during 1978-79, the erudite scientist was Professor of Eminence in Animal Genetics, ICAR at HAU, Hisar. In the interim, from 1970-78 and also during 1979-80, Dr. Acharya was Director, Central Sheep & Wool Research Institute (ICAR).

Under Dr. Acharya's expert guidance new Research Institutes on Buffaloes, Goats, Avian species, Equines, Yak,

Mithun and Camel, Project Directorates on Cattle and Poultry; and National Bureau of Animal Genetics Resources were established.

The multifaceted dairyman held several eminent positions during his career both in India and abroad. He was Chairman, Research Advisory Committee of Central Institute for Research on Goat, NRC on Camel, Central Sheep & Wool Research Institute and member of Research Advisory Committee at IVRI and NDRI.

Dr. Acharya was Adviser to the Government of Iran for review and planning of Animal Husbandry Research, Development and Education programs. As a FAO expert in Iran he evaluated the UNDP project on buffalo breeding. The eminent scientist has also been a member on FAO panels of Animal Genetic Resources; Small Ruminant Production; and Animal Biotechnology. He was also Chairman, IDRC Small Ruminant Production Network in Asia.

Not one to rest on his laurels, Dr. Acharya continues to be an active participant in dairying activities. He has lately been associated with review of research, education and extension programs of Punjab Agricultural University, Orissa University of Agriculture and Technology, Central Avian Research Institute and Project Directorate on Poultry. His valuable contributions include evaluation of research planning, priority setting and research achievements and their application in development planning.

This Patronship is a fitting tribute to Dr. R.M. Acharya for his exemplary role in the development of the dairy industry and his numerous contributions to its progress.

### **PATRONSHIP**

#### **Dr. Rattan Sagar Khanna**

**D**r. Rattan Sagar Khanna has been chosen as the recipient of IDA's Patronship for the year 2017-18, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



A renowned figure in the world of dairying, Dr. Khanna is currently Chairman, Kwality Ltd., New Delhi, listed on NSE/BSE as India's #1 dairy company. He is a well recognized dairy consultant on domestic and international circuits and has worked for the World Bank, Asian Productivity Organization, APHCA, USAID, IL&FS for projects in India, Sri Lanka, Nepal, Pakistan, Sudan, Kenya, etc. He has been Consultant to

February 8-10, 2018, Kochi



Bharti Airtel, Kwality Dairy, Namaste India Foods, E&Y, IMRB, etc. He is Consultant with Guide Point (NY, Singapore), and Council Member and Consultant, Gerson Lehrman Group, New York.

Dr. Khanna has been Consultant to the Department of AHD, New Delhi; Co-convener, NAAS Panel for preparation of "Breeding Policy for Cattle & Buffalo in India" Policy Paper 82 (August 2016). He is a Member, sub-committee for Doubling Farmers' Income (Dairy) of the Ministry of Agriculture, New Delhi (2017-18).

Born on 12<sup>th</sup> April, 1945, Dr. Khanna has been a diligent scholar during his B.V.Sc. & AH (1962-66); topper with Honours in M.Sc. (1968-69) from Punjab Agricultural University; and Diploma in Gyn & Andr from Royal Veterinary University Denmark. An avid seeker, he has studied Project Management (IIM Bangalore, NPC New Delhi), Agricultural Journalism (New Delhi), and Commercial Law (MSU Baroda).

Beginning in 1970 as Assistant Professor (Animal Breeding) at the JNKVV, Jabalpur and HAU, Hisar, he held important positions with the IDC/NDDB during the implementation of OF Programme (1972-1998). He was MD, Rajasthan Co-operative Dairy Federation, Jaipur, rejuvenated it financially and recharged its management to operate as vibrant cooperative. He was AGM/GM at GCMMF (1998-2003) and later as advisor. He has been CEO (Animal Feeds) Ayurvet Limited and Director General, Ganesh Scientific Research Laboratory.

As Life Member IDA, he has been passionately associated variously since 1992 on its CEC/NZEC, was Secretary (1993-95), Vice Chairman of IDA (NZ) 2004-07 & 2011-17 and hosted 40th DIC, New Delhi during 2012 as Secretary General which was one of the best dairy conferences. He is member of the Executive Committee of World Buffalo Trust, Member Industry Review Group on Milk & Milk Products and Beverages Food Standards & Safety Authority of India, and Co-Chairman (Agribusiness and Food Processing) PHD Chamber of Commerce & Industry, New Delhi.

An avid reader, eloquent speaker, erudite scholar, and prolific writer and reviewer, Dr. Khanna has a number of books and publications to his credit. He authored e-book 'Sustainable Dairy Sector Development for Poverty Reduction' published (2005) by the Asian Productivity Organization, Japan, 'Indian Dairy Cooperatives' published (2009) by ICAR, New Delhi, and 'Management of Mastitis - Mastilep and Its Application', Ed (2015) published by Ayurvet. The multifaceted dairy expert was Technical Editor

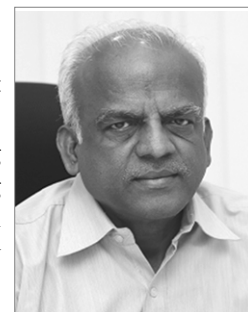
of Dairy India (Eds. 6 and 7) and has authored more than 100 research, review, and sectoral articles in various national and international journals.

Indian Dairy Association is pleased to honour Dr. R.S. Khanna and bestow Patronship on him for his exemplary contribution in the development and progress of the dairy industry.

## PATRONSHIP

### Mr. R.G. Chandramogan

**M**r. R.G. Chandramogan has been chosen as the recipient for IDA's Patronship 2017-18, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



A renowned dairyman and entrepreneur, Mr. R.G. Chandramogan is the founder of Hatsun Agro Product Ltd, the largest private sector dairy company in the country based in Chennai. The Company's well-known brands Arun, Arokya, and Hatsun are leaders in the segments of ice creams, milk and curd amongst private dairies in India.

Born in Tiruthangal, Tamil Nadu, Mr. Chandramogan had to discontinue his education early on to support his family. At 21 years of age, with the help of a meager capital, he started CHANDRAMOHAN COMPANY in 1970 which was established as Hatsun Agro Products Ltd in 1986. It is due to the founder's visionary zeal that since then Hatsun Agro Product Ltd. has been committed to enriching the lives of its consumers by providing a range of high-quality dairy products. Through the commendable leadership and entrepreneurial skills of Mr. Chandramogan, the company's brands have become household names in over one million Indian homes. Arun Icecreams, Arokya Milk, Hatsun Curd, Paneer, Ghee, Dairy Whitener, and Ibaco premium products have become popular choices across the country and have established Hatsun as a well-respected brand.

A respected visiting faculty at IIM Ahmadabad, Mr. Chandramogan's success story has inspired a case study of Arun ice creams by the leading B-School.

Mr. Chandramogan has served as a member of planning commission in the Department of Animal Husbandry, and was also a member of Secondary Agriculture. He



was also Director of City Union Bank Ltd for 16 years.

Committed to take Hatsun to greater heights, Mr. Chandramogan has incorporated the best of services and technological support for his organization. The Animal Husbandry Team in Hatsun consists of 94 veterinarians, 22 agronomists and 302 inseminators apart from managers and support staff.

With over 3 lakh cows inseminated this year, the team offers insemination services at competitive rates using high quality bulls, thus enabling farmers to produce superior next generation animals.

Hatsun has over 10,000 collection centres and was the first company to introduce instant milk chilling without electricity using thermal battery. Having a healthy global presence, its dairy products are exported to 38 countries around the world — primarily to Canada, the Middle East and South Asian markets.

This Patronship is a fitting tribute to Mr. R.G. Chandramogan for his exemplary role in the development of the dairy industry and his numerous contributions to its progress.

## IDA Fellowship

### FELLOWSHIP

#### Dr. Nainar Balaraman

**D**r. Nainar Balaraman has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



In a distinguished career spanning over three decades, the acclaimed scientist is a revered name in the field of Veterinary Science and Animal Nutrition. He was the honourable Vice Chancellor of Tamil Nadu Veterinary and Animal Sciences University during 2004-2007.

Born in 1944, Dr. Balaraman did his B.V.Sc and M.V.Sc from Madras University before joining as Veterinary Assistant Surgeon in the Animal Husbandry Dept of Tamil Nadu Govt in 1973. He later completed his Ph.D from NDRI, Karnal in 1987. Dr. Balaraman was Head of the Division of Dairy Cattle Nutrition at NDRI, Karnal during 1996. His professional excellence saw him gracing the posts of Joint Director, Research and Academic, before he went on to

become the Acting Director of the Institute in 2002.

A valued Life Member of IDA, Dr. Balaraman was the Chairman of Tamil Nadu Chapter from 2014 to 2017 and has enriched the Association through his proactive approaches in the growth of the Chapter. He is also a Life Member of Indian Veterinary Association, Animal Nutrition Society of India and Animal Nutrition Association among others.

Dr. Balaraman has functioned in varied capacities in numerous committees and dairy projects. He was Chairman of Research Advisory Committee NIANP, Bangalore during 2007-09, and later at Nagaland and Guwahati. He was also Member, Research Advisory Committee at NDRI, Karnal.

The respected dairyman has been feted with numerous awards and accolades in recognition of his academic and professional brilliance. The esteemed Life Time Achievement Award was bestowed upon him by the Animal Nutrition Society of India in 2014. He was also a Fellow of National Academy of Veterinary Sciences, NAVS, in 2006. Befitting his caliber and stature he was also conferred with "Honorary Colonel" title by the Ministry of Defence, Govt. of India in 2006 for his contributions in the field of Veterinary Sciences.

Not one to rest on his laurels, the proactive veterinarian has initiated a number of international collaborations to benefit India's dairy sector. He visited Michigan State University to bring about collaborations between Tamil Nadu Veterinary and Animal Sciences and College of Veterinary Medicine, Michigan State University in 2006. He also visited Regional College of Veterinary Medicine, Maryland State University, USA for initiating Inter-Institutional collaborative programmes.

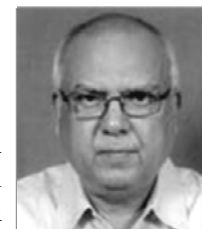
The versatile academician and scientist has been the Chief Editor of The Indian Veterinary Journal, Chennai from 2010 to 2013. He has a number of publications to his credit including 47 research papers, 70 popular articles 14 books and book chapters and several scientific reviews and edited works.

This Fellowship is a fitting tribute to Dr. Nainar Balaraman for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

### FELLOWSHIP

#### Dr. R. Chattopadhyay

**D**r. R. Chattopadhyay has been chosen as the recipient of IDA Fellowship 2017-2018, in







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recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.

The dynamic Chairman of IDA (EZ), Dr. Chattopadhyay has held several important positions at National Dairy Development Board (NDDB) where he was General Manager (Eastern Region) from 1999-2001 and was responsible for the execution of Operation Flood project in Eastern India.

A respected scientist and dairyman, Dr. Chattopadhyay joined NDDB in 1977. Through the course of his remarkable career he distinguished himself in the Operation of Dairy Cooperatives, Animal Health and Cattle Breeding, and Management of Dairy Processing Units etc in several other organizations as well.

Born on 9<sup>th</sup> July 1943 near Haringhata in Nadia District, West Bengal, the meritorious Dr. Chattopadhyay did his graduation in Veterinary Science & Animal Husbandry with distinction and Honours in Preventive Veterinary Medicine from Calcutta University in 1965. In 1971 he was selected as Superintendent of Livestock and was attached to World Food Programme 618 project. In 1973, he went on to do his Masters in Animal Husbandry from Kalyani University securing first position with first class.

During his various assignments at NDDB, he represented the organization as a member of the Board of Directors of various Milk Unions, State Dairy Federations and the Management Committee of Mother Dairy and Metro Dairy, Calcutta.

During 1994, Dr. Chattopadhyay was deputed as Managing Director of Ajmer Milk Union for rehabilitation of the sick Dairy Project with 1 lakh litre capacity milk processing per day having drying facility and cattle feed production.

After his superannuation from NDDB in 2001, he was assigned as General Manager of Sabarmati Ashram Gaushala, Bidaj, Gujarat. Responsible for the overall management of the Dairy Cattle Breeding Project his efficiency and commendable work was greatly appreciated. The Kaira Dist. Cooperative Milk Producers' Union Ltd., hailing him as their mentor and advisor, assigned him as Officer on Special Duty of the Cooperative at Kolkata to initiate and execute processing, packaging and marketing of milk in West Bengal. Dr. Chattopadhyay continues to fulfil this assignment till today.

A respected Life Member of IDA, Dr. Chattopadhyay, as the proactive and enterprising Chairman of IDA (EZ) continuously brings in innovative changes and value additions

to all zonal activities.

This Fellowship is a fitting tribute to Dr. R. Chattopadhyay for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

## FELLOWSHIP

### Dr. Ravinder Kumar Malik

**D**r. Ravinder Kumar Malik has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



Dr. Malik is a distinguished Dairy Microbiologist. Born in 1954 at Meerut, he obtained his Masters and Ph.D. degrees in Dairying (Dairy Microbiology) from ICAR-National Dairy Research Institute, Karnal, in 1976 and 1982, respectively. In 1984-85 he was awarded DAAD Fellowship for Post Doctoral research in Germany. He joined NDRI as Scientist in 1978 and subsequently rose to the position of Senior Scientist in 1986, Principal Scientist in 1998, Head of the Division in 2012 and Joint Director (Research) in 2014. He is currently working as ICAR Emeritus Scientist (Professor) at NDRI, Karnal. His major areas of research have been Metabolites of Lactic Acid Bacteria, Bacteriocins, Food Safety & Biopreservation and Probiotics & Functional Foods for Health. Besides 21 in-house Research Projects, he has handled 11 projects funded by DBT, DST, MoFPI, NDDB, NARP, NAIP, NFBSFARA. He was also Principal Investigator of an Indo-New Zealand Collaborative research project. Dr. Malik has published more than 90 research papers in peer-reviewed National and International Journals of repute, two books, five manuals, 15 book chapters and has also contributed 85 papers in several proceedings of Seminars/Symposia/Conferences etc. He has also three patents to his credit.

Dr. Malik has guided 15 Ph.D scholars and 16 M.Tech students besides mentoring two Post Doctoral Fellows. He has won several awards and international fellowships including the prestigious Dr. N.N. Dastur Award for Outstanding Research in the Area of Dairy Processing. He is the recipient of Honorary DAAD Advisor award (2006-09) for Outstanding Commitment & Leadership in Promoting Indo-German Relations in Education. He also received Visiting Professor Fellowship Award of Erasmus Mundus Scholar Program of European Union (EU) in 2013. He has made a number of presentations of his research work at the National and



International Conferences.

Dr. Malik has been a Member on the National Committee of International Dairy Federation (IDF) and CII Committee on Dairy and Bureau of Indian Standards (BIS). He is also Member-Expert of Academic bodies at several Universities and Institutions. He is an elected Fellow of National Academy of Dairy Science (FNADSc), Fellow of Society for Applied Biotechnology (FSAB), and Fellow of Indian Society of Veterinary Pharmacology and Toxicology (FISVPT). Dr Malik is also Executive Editor of Indian Journal of Dairy Science.

Throughout his career of over 39 years Dr. Malik has had outstanding achievements and has made exemplary contributions as a researcher, academician, and research manager.

This Fellowship is a fitting tribute to Dr. Ravinder Kumar Malik for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

**FELLOWSHIP**

**Dr. P.I. Geevarghese**

**D**r. P.I. Geevarghese has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



Dr. Geevarghese is the dynamic Chairman of IDA Kerala chapter, who has left no stone unturned in organizing the 46<sup>th</sup> DIC at Kochi. The eminent scientist has made remarkable contributions as Dean and Professor at College of Dairy Science and Technology (CDST) at Mannuthy, Kerala. A versatile dairyman, Dr. Geevarghese has lent his expertise in livestock farms at Mannuthy and Thiruvazhamkunnu; Dairy Production and Meat processing units; Departments of Dairy Chemistry, Technology, Extension, Dairy Science and Livestock Products Technology. He has graced several administrative positions in his capacities as Associate Dean, Dean and Special Officer.

Born on 24<sup>th</sup> June 1955 at Mannoor in Ernakulam district of Kerala, Dr. Geevarghese pursued his B.V.Sc and A.H in Veterinary and Animal Husbandry in 1977, M.V.Sc in 1979 and Ph.D in Dairy Science in 1996 from Kerala Agricultural University (KAU).

During his remarkable career spanning 36 years, the learned Professor distinguished himself as a veterinarian and academician par excellence. He was Professor and Head, Dairy Chemistry and Dairy Extension, College of Dairy

Science and Technology, Kerala at the time of his superannuation in 2015. Earlier, he was the Dean, CDST and Special Officer at Dairy Science College, Chettachal. Dr. Geevarghese has earned for himself the enviable reputation of a brilliant educationist, an efficient extension worker and a perspicacious institution builder.

The remarkable achievements of Dr. Geevarghese include developing the 'Gems model' for the determination of total solids in milk. The technology for Kera Ice cream was developed under his guidance. He is also credited with curriculum development of the Dairy Technology course.

A Life Member of Indian Dairy Association, Dr. Geevarghese's efforts in the establishment and growth of IDA's Kerala State Chapter is exemplary. He was Chairman of the Chapter during 2007-2010 and again from 2014 to date. Under his guidance, the chapter has organized numerous laudable programmes. Besides being a member of the ZEC of IDA, he is also the Secretary General of the 46th DIC.

Since retirement in 2015 he has been Member of the scientific panel on Milk and Milk products of FSSAI and Member of the Quality Mark scheme of NDDB, besides being actively involved in the service projects rendered by NGOs and institutions.

For his invaluable services to the dairy sector Dr Geevarghese has been the recipient of numerous awards such as Award of Excellence in Dairy Science and Technology, New Product Concept Contest Award(AFST-I), Award for significant contributions towards imparting training in Kerala Agricultural University etc.

Dr. Geevarghese's learned publications has further enriched the areas of research and education in the dairy industry. He has 4 books/monographs, 11 practical manuals, 5 edited books, and several research and popular articles to his credit. The multifaceted dairyman has also served as an expert in programs on the visual media.

This Fellowship is a fitting tribute to Dr. P.I. Geevarghese for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

**FELLOWSHIP**

**Dr. Latha Sabikhi**

**D**r. Latha Sabikhi has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by her in furthering the cause







## awards

of Indian Dairy Association and the growth of the Indian Dairy Industry.

Dr. Sabikhi is the Head of the Dairy Technology Division of NDRI, Karnal since September, 2014 and has the distinction of being the first woman graduate of Dairy Technology from the National Dairy Research Institute, Karnal. Her major research interests have focused on development of functional and probiotic dairy-based foods, technology refinement to improve the sensory, functional and health attributes of dairy foods and development of composite dairy foods based on cereal, fruits and vegetables that have synergy with milk and milk products. She has received advanced training on cheesemaking in Italy and on tissue culture techniques in the United States. During her post-doctoral tenure at South Dakota State University in USA, Dr. Sabikhi studied the ability of conjugated linoleic acid produced by lactic cultures to reduce the viability of Caco-2 cells.

In recent times, Dr. Sabikhi has been actively involved in the development of Functional Dairy Foods, particularly dairy conjugates as effective emulsifiers for the delivery of bioactive compounds, iron fortified pearl millet biscuits, whey-enriched probiotic cereal-based beverage, dairy-based smoothies, millet-based functional yoghurt etc. Her current research focus is on improvement of traditional products, in areas like texture improvement and shelf life extension of dahi through biotechnological approaches and application of cheesemaking principles to Indian farmstead cheeses. Low calorie zero trans fat biscuits, whey-based lassi, omega-3 fortified milk, milk protein enriched pearl millet malt based complementary food and probiotic Edam cheese are some of the products developed in her laboratory.

Dr. Sabikhi is a Fellow of the National Academy of Dairy Science (India). During her teaching career of over two decades, Dr. Sabikhi has been major advisor to 12 Doctoral and 15 Master's dissertations. She has authored or co-authored over 50 research papers and about 100 scientific and technical publications including research-reviews and book-chapters. She is also the author of a book on milk processing, two practical manuals for undergraduate students of Dairy Technology and has two patent applications to her credit. Dr. Sabikhi was awarded the International Professional Women Opportunity Award by CorFiLaC, a Scientific Consortium of the Italian Government and Universities. She has also been honoured with a special mention in the Book 'Women: Invisible Energy of Development' published by the consortium.

As the Chairperson of the Placement Cell of NDRI,

Karnal for the past decade, her contribution to the Human Resource needs of the Dairy Industry has been outstanding.

This Fellowship is a fitting tribute to Dr. Latha Sabikhi for her exemplary role and contributions to IDA and to the Indian Dairy Industry.

**FELLOWSHIP****Mr. D.V. Ghanekar**

**M**r. D.V. Ghanekar has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



The charismatic Mr. Ghanekar has been Managing Director of Kolhapur Zilla Sahakari Dudh Utpadak Sangh Ltd. (Gokul Dairy) since 2009 and through his innovative and farmer-centric approaches has turned Gokul into one of the most popular brands in India. Gokul Dairy is one of the finest co-operatives in the nation and is well known for its various extension programmes such as Calf Rearing, Women Empowerment, Micro Training Centre and Gokul Gram Vikas Yojana Programmes etc. At present, Gokul Dairy's procurement is 14 lakh lit. per day and marketing is 11 lakh lit. per day in cities like Mumbai, Pune and Kolhapur region. Gokul, under Mr. Ghanekar's able leadership is aiming at milk procurement of 20 LLPD by 2022.

The meritorious Mr. Ghanekar received scholarship at NDRI, Karnal, and after graduating in 1973 joined Ludhiana Dairy as a Technical Officer. He then joined NDDDB, Anand in 1974 where he worked on a number of challenging projects including the Bhatinda Project under OF and Farmers Organization Group, Jalgaon. These experiences enabled him to become Dy. Team Leader and later Manager (Procurement) and Manager (Cattle Feed) at Gokul Dairy, Kolhapur, for five years till 1983.

Due to his leadership abilities and skills in organizing dairy co-operatives he was posted at Solapur in Maharashtra as Team Leader and Managing Director. NDDDB then appointed Mr. Ghanekar as State Co-ordinator for Maharashtra, Goa and Madhya Pradesh. He co-ordinated activities in the three states and launched Operation Flood - II Programme successfully.

Mr. Ghanekar was sent by NDDDB for higher education under Ford Foundation Scholarship to Athens, Ohio for a Masters course in "Inter Personal Communication" with particular reference to Women Empowerment in Maharashtra



and Rajasthan. On his return to India, Mr. Ghanekar worked with farmers, specially for the empowerment of women dairy farmers under the able leadership of Miss Amrita Patel, the then MD of NDDDB. He was part of a special Women Dairy Leadership Development Programme under EEC grant. NDDDB used his skills in women empowerment for developing women training programmes at village level at various milk unions throughout the country. Under the perspective plan of NDDDB, he was posted as State Director of Gujarat and afterwards as State Director of Maharashtra. He helped various milk unions in Gujarat and Maharashtra, and launched perspective plans for strengthening of infrastructure and dairying in both the states.

After this Mr. Ghanekar took over as Managing Director, NCDFI, Anand. During his tenure, he developed semen marketing activities and initiated supply of milk and milk products to the Railways. After serving for 35 years at NDDDB, he joined as Managing Director of Gokul Dairy in 2009 and has since been lending his valuable and wide - ranging expertise to bring around far-reaching changes at the Cooperative.

This Fellowship is a fitting tribute to Mr. D.V. Ghanekar for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

**FELLOWSHIP**

**Mr. Dilip Sarda**

**M**r. Dilip Sarda has been chosen as the recipient of IDA Fellowship 2017-2018, in recognition of outstanding services rendered by him in furthering the cause of Indian Dairy Association and the growth of the Indian Dairy Industry.



Mr. Sarda is the eminent Founder-Director of Synergy Agro-Tech Pvt. Ltd., Ahmedabad from 1994 to date. The Company renders technical turn-key consultancy services in the field of design, planning, execution and management of Dairy and Frozen Food Industries. It is also associated with the design, manufacture and supply of plant and machinery for ice cream projects on turnkey basis.

Born on 31<sup>st</sup> December 1946, Mr. Sarda completed B.E. (Mechanical) from L.D. College of Engineering, Ahmedabad in 1968 and M.E. (Refrigeration & Air Conditioning) from the same Institute in 1970. Mr. Sarda is also an Energy Auditor from the Bureau of Energy Efficiency,

Govt of India.

Throughout his remarkable career Mr. Sarda has been associated with a number of dairy institutions and, in the process, has built useful synergies for the dairy industry. He was President of Sarda Associates, Ahmedabad from 1990 to 1994 and rendered technical services for dairy, cold storage and food industries. He also functioned as the Chief Project Manager at Vadilal Industries and was Senior Project Engineer at NDDDB.

Mr. Sarda's notable contributions include installation and operation of the first milk vending station at GSFC, Vadodara in India; design utility including refrigeration systems for Mother Dairy and all feeders and feeder balancing dairies in the Operation Flood and World Bank projects. He was deputed by NDDDB to MPEDA as a Technical Advisor for setting up cold storages in India during 1975 - 1979.

Further, Mr. Sarda has been responsible for the turnkey execution of several projects between 1990 and 2013 including Ice cream project for Vadilal Industries, Dinshaw's , Hatsun Agro etc. Mr. Sarda has also conducted energy audits of various ice cream and dairy projects at Vadilal , Havmor, Dinshaw's, Samruddha Dairy etc.

An experienced dairyman, he is widely respected in the academic arena and is visiting faculty for Post Graduate course at Nirma University . He is also visiting expert faculty for training programmes at Vidya Dairy, Anand. An erudite person, Mr. Sarda has a number of published papers and research projects to his credit. He has delivered a number of informative lectures on subjects like Importance of Cold Chain; Refrigeration Requirement for Dairy project; Energy Audit for Dairy project etc.

Respected Mr. Sarda has been actively associated with various activities of Indian Dairy Association and is its Life Member.

This Fellowship is a fitting tribute to Mr. Dilip Sarda for his exemplary role and contributions to IDA and to the Indian Dairy Industry.

February 8-10, 2018, Kochi





# awards

46<sup>th</sup> Dairy Industry Conference

## *Dairy Woman of the Year Award 2018*

### **Ms. Jini P.B.**

**M**s. Jini PB has been selected by IDA (South Zone) as the recipient of the Dairy Woman of the Year Award for 2018 in recognition of outstanding contribution of a woman dairy farmer to the growth and development of the Indian dairy sector.



The 35 year old Ms. Jini hails from Payattuville, Thiruvananthapuram, Kerala and has been contributing milk to the Payattuville APCOS, Payattuville Milk Producer Cooperative for the last 6 years.

Ms. Jini is an experienced dairy farmer and a role-model for women dairy farmers of her area. She has a herd size of 35 animals on her farm. She has poured an impressive 1,00,726 litres of milk during the year Jan-Dec. 2017.

This Dairy Woman of the Year Award is a fitting tribute to Ms. Jini PB for her exemplary role in furthering the cause of dairying in Payattuville, Thiruvananthapuram district of Kerala and in the Indian dairy industry as well.

### **Mrs. Rubi Thakur**

**M**rs Rubi Thakur has been selected by IDA (East Zone) as the recipient of the Dairy Woman of the Year Award for 2018 in recognition of outstanding contribution of a woman dairy farmer to the growth and development of the Indian dairy sector.

Hailing from village Karnauti of Vaishali district in Bihar, Mrs. Thakur has been associated with Vaishali Patliputra Dugdh Utpadak Sangh Ltd., for the last 17 years. As an exemplary woman milk producer she has earned a commendable name for herself in the Cooperative. During 2016-17, she contributed 43,030 litres of milk worth 11 lakh rupees. New ideas, techniques and inputs in the field of dairy form the crux of her success story.

This Dairy Woman of the Year Award is a fitting tribute to Mrs. Rubi Thakur for her exemplary role in furthering the cause of dairying in Vaishali district and in the Indian dairy industry as well.





## Dairy Woman of the Year Award 2018

### Mrs. Prachi Abhay Patil

**M**rs. Prachi Abhay Patil has been selected by IDA (West Zone) as the recipient of the Dairy Woman of the Year Award for 2017 in recognition of outstanding contribution of a woman dairy farmer to the growth and development of the Indian dairy sector.



Belonging to village Jambhali of Kolhapur district in Maharashtra, Mrs. Patil is associated with Kolhapur Zila Sahakari Dugdh Utpadak Sangh Ltd. Mrs. Patil's efforts in the use of latest technological innovations to increase the per animal productivity on her farm is worth emulating and has become a source of inspiration for the entire district. Her success story has led a large number of dairy farmers to seek her guidance and bring about lucrative returns in their own farms. Starting with a mere 9 buffaloes in 2000, Mrs. Patil today has 290 cows and 30 buffaloes at her farm. During 2016-17, she created a record by contributing 5,94,904 litres of milk to the Kolhapur Milk Union.

This Dairy Woman of the Year Award is a fitting tribute to Mrs. Prachi Abhay Patil for her exemplary role in furthering the cause of dairying in Kolhapur district and in the Indian dairy industry as well.

### Mrs. Nitu Yadav

**M**rs Nitu Yadav has been selected by IDA (North Zone) as the recipient of the Dairy Woman of the Year Award for 2018 in recognition of outstanding contribution of a woman dairy farmer to the growth and development of the Indian dairy sector.



Hailing from village Gudha in Mahendragarh district of Haryana, Mrs. Yadav is associated with Mehsana Zila Sahakari Dugdh Utpadak Sangh Ltd., and contributes approx. 1400 litres per day to the cooperative. Owing to her practical knowledge and untiring efforts, Mrs. Yadav has been hailed as the best and most well-respected milk producer of the Cooperative. Beginning her dairy journey with merely 6 milch animals, she is today the owner of 150 animals. Her dairy farm serves as a model for the entire district and she continuously updates her knowledge with expert, scientific inputs of latest technological innovations. Due to her experience and success, Mrs Yadav has become the role model for women dairy farmers, thus accelerating dairy development in her area.

This Dairy Woman of the Year Award is a fitting tribute to Mrs. Nitu Yadav for her exemplary role in furthering the cause of dairying in Mahendragarh district and in the Indian dairy industry as well.

February 8-10, 2018, Kochi














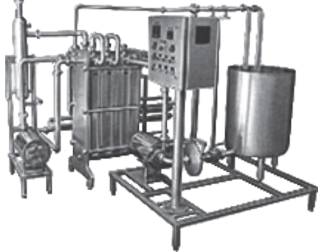
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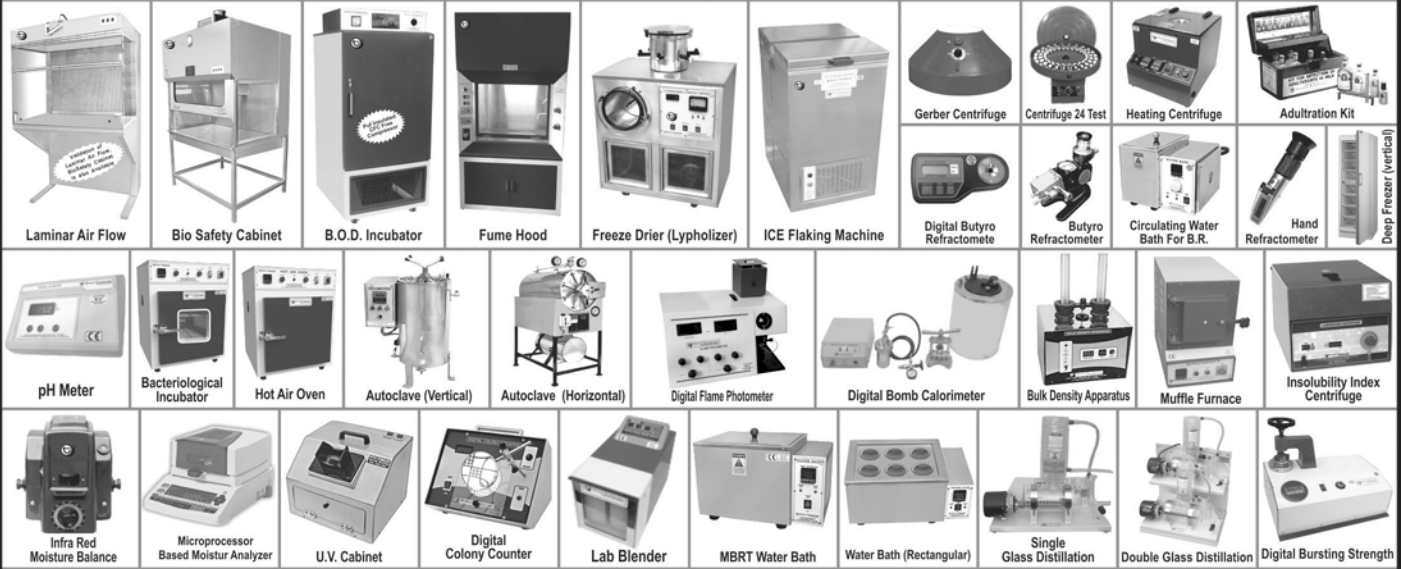


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## VAISHAL PATLIPUTRA DUGDH UTPADAK SAHKARI SANGH LTD.

PATNA DAIRY PROJECT

Feeder Balancing Dairy Complex, Phulwarisharif, Patna-801505

Phone: 0612-2252553, 2252542, 2251622. Fax: 2250325

Email: vpmunin@gmail.com

**Vaishal Patliputra Dugdh Utpadak Sahkari Sangh Ltd. (VPMU)**, Patna popularly known as Patna Dairy Project, Patna is one of the affiliated Milk Union of Bihar State Milk Cooperative Federation and is engaged in processing of milk, manufacturing of several Dairy Products under the brand name of "SUDHA" and manufacturing of various types of Cattle Feed Products under the brand name "SUDHADAN".

**VPMU** for its Plant and associated units across different parts of Bihar intends to procure several types of raw materials, food ingredients, additives of all types and various types of chemicals, process instruments, several mechanical and electrical equipments and spares, metal pipes and its fittings, IT Hardware and its spares and software, various types of stationery etc. on regular basis from its registered vendors.

Hence reputed interested suppliers of above materials are requested to get their firm/organization registered with us. For more details please visit our website [www.patnadairy.org](http://www.patnadairy.org) (Vendor Registration Form), and send us the dully filled Registration Form along with the requisite document in prescribed format as mentioned in form. For any tenders and related informations suppliers may visit our website: [www.patnadairy.org](http://www.patnadairy.org)



# SUPPLIERS INVITED

We wish to procure various packaging materials for milk & milk products e.g. Injection & Blow Molded, Thermoformed items, Plastic Crates, Flexible laminates, nylon barrier Ghee Film, LDPE Liner & Shrink Film, Aluminum Foil, BOPP Tape, Printed PVC shrink sleeves, HDPE PL Bags, mono / ceka / Refill Cartons, Corrugated Box, Tin Containers, MS/Plastic Barrel, Injection Moulded Plastic Pallet, Hand Pallet Truck, Glass bottle, TFS Crown, Wooden Stick, VPP etc.

Various other items e.g. Annatto Butter Colour, Vitamins, Dahi Culture, Biscuit cone with wrapper, Butterscotch Chikki, Flavour, Colour & Stabilizers for Dairy Products, DCP & Mineral Mixture, Furnace Oil (Grade: MV2), Milking Machine, Bulk Milk Cooler, Automatic Milk Collection System, Aluminum & SS milk Cans, POP materials, Gunny Bag, Veterinary Medicines, First Aid / Surgical items for veterinary application, Liquid Nitrogen (LN2) containers, Cattle Feed Raw Materials & various refrigeration equipments e.g. Deep freezer, Cold Room, VISI Cooler, Push Cart etc. also required.

Reputed suppliers (having in-house production facility) interested in supplying the above said items may please visit our website [www.amul.com/B2B/Supplier](http://www.amul.com/B2B/Supplier) Registration Form - GCMMF & send us the hard copy duly filled in all respect.



Amul



SAGAR

## Indvac™ VACUUM PACKAGING MACHINES

- Ideal solution to your packaging & shelf life problems for all perishable items.
- Indvac™ vacuum packing machines are very popularly used for retail as well as bulk packing of dairy products like cheese, paneer, khoa etc. in barrier pouches.



Belt Type Continuous Vacuum Packing Machine

Indvac™ offers



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Email: [indvacad1@gmail.com](mailto:indvacad1@gmail.com), [saurabh@indvacindia.com](mailto:saurabh@indvacindia.com), [dipak@indvacindia.com](mailto:dipak@indvacindia.com), Web Site : [www.indvacindia.com](http://www.indvacindia.com)

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**B/503 Sahyog, S.V.Road, Kandivali**

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**Mr.Yogesh Vora: 09920872223/09323012223**

**yogesh@kscl.co.in**

## AmulFed Dairy

A UNIT OF GUJARAT CO-OPERATIVE MARKETING FEDERATION LIMITED  
(PREVIOUSLY KNOWN AS MOTHER DAIRY, GANDHINAGAR)

Plot No. 35, Nr. Indira Bridge, Ahmedabad-Gandhinagar Highway, Village: Bhat, Dist:Gandhinagar  
Pin : 382428, Tele. No.: (079) 23969055 Fax : (079) 23969059 Website:www.amul.com

### REGISTRATION OF SUPPLIERS

AmulFed Dairy, Gandhinagar is a unit of GCMMF Ltd. GCMMF Ltd. is a national level apex cooperative marketing organization engaged in marketing of milk and milk products under the brand name of AMUL. AmulFed Dairy is also having the poly film manufacturing unit at Gandhinagar. We wish to empanel/ register reputed vendors for Gandhinagar plant and also for PFP unit.

Interested suppliers engaged in manufacturing/ processing of various raw materials e.g. polyethylene granules, master batch, metallocene, printing inks for roto-gravure and CI flexo, toluene free inks, printing cylinders, paper cores, plastic scrap converters, chemicals, food grade ingredients & food grade colours, spice powders, stabilizers & emulsifier, sucralose, coconut oil, jelly, grocery and crockery items and vegetables, fruit crush and compounds, fruit pulps, dryfruits, fabrication items, hardware items, electrical items, engineering spares, lubricants, stationery items, suppliers engaged in AMC of different equipments / machineries, Dry/cold warehouse owners who can provide suitable space for food products storage, C & F agents may send the registration form (available on our website www.amul.com) in hard copy duly filled in all respect with necessary supporting to at the above address. Transporters who can supply open, closed, container, insulated, refrigerated vehicles for transportation of material within and outside Gujarat should also send in the registration form to above address.

**Amul**



**SAGAR**





# Indian Dairy Association

IDA House, Sector IV, R.K. Puram, N. Delhi-22  
Phones: 26182454, 26179781, 26165355 Fax: 26174719  
E-mail: admin@indairyasso.org/idahq@rediffmail.com  
Web: www.indairyasso.org

## APPLICATION FORM FOR MEMBERSHIP RENEWAL

The Annual Membership of Indian Dairy Association commences from 1st April each year. The members of the Association are, therefore, requested to kindly submit this renewal form duly filled in alongwith a Demand Draft / Money Order in favour of Indian Dairy Association, New Delhi.

**I would like to renew my membership for the year.....**

- ◆ Membership No. \_\_\_\_\_
- ◆ Ordinary member Rs. 1000/- per annum
- ◆ Student member (Post Graduate) Rs. 400/- per annum
- ◆ Student member (Under Graduate) Rs. 200/- per annum

(For Student Membership **bonafide certificate of studentship** is required with each renewal application.)

**NAME**

First Name

Middle Name

Last Name

**Date of Birth**

Date   Month       Year

**Name of the Organisation/ Institution** .....

**Designation/ Years & Course** .....

ADDRESS	OFFICE / INSTITUTION	RESIDENCE
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

**City** ..... **PIN**..... **PIN**.....

**State** .....

**Phones :** .....

**STD Code-Fax. No.:** .....

**E-mail Address:** ..... **Web:**.....

**Mailing Address:**  **OFFICE / INSTITUTION**  **RESIDENCE**

**PAYMENT DETAILS:** **DD / M.O.No.** \_\_\_\_\_ **Signature** \_\_\_\_\_

**Name of the Bank** \_\_\_\_\_ **Date** \_\_\_\_\_

◆ Ordinary Members who do not renew their membership for the year before 31st May shall have to pay additionally Rs. 100/- as readmission charges ◆ All facilities offered to members including supply of journals shall commence from the month of renewal of membership.



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(for cows)

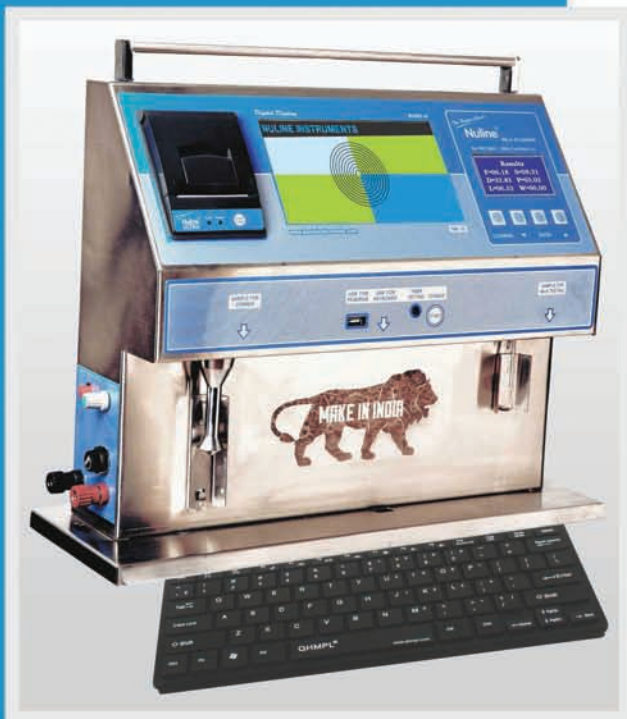
- ✓ Easy to operate
- ✓ Efficient, hygienic and consistent milking
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- ✓ Faster and better than hand milking
- ✓ Low on maintenance and prompt after-sales service
- ✓ Trolley model is easily manoeuvrable
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- Milk Analyser, Ultrasonic Stirrer & Data Processing Unit in One Unit
  - Dual Display 7inch Colorful TFT Screen & 4 Line LCD Display
  - Battery (DC) Voltage Display on TFT Screen
  - 32bit ARM Microcontroller based embedded design
  - Simple, easy to use, economical
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  - No Acid or other chemical required
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  - Stainless Steel 304 cabinet
  - Developed for indian electricity & Weather condition
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    - Shift summary
    - Member Report
    - Payment Report
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  - Large Memory (4GB-more than 10 year data storage)
  - Rate Chart download manually or pendrive
  - Rate format based on TS (Total Solids) & Fat-SNF rate chart
  - (encrypted Excel Format)
  - Any weighing scale can be interface in DPU\*
  - Auto Tare (Zero) after the farmer slip printing and data storage automatically
  - Import & Export of data to USB drive/Server (GPRS Facilities)
- \*Condition Apply



### TECHNICAL SPECIFICATION

#### MILK SCANNER

Parameter	Measuring range	Accuracy
Fat	0,01 – 25%	± 0,1%
Solids-non-fat (SNF)	3% – 15%	±0,15%
Density	1015 – 1040 Kg/m <sup>3</sup>	±0,3kg/m <sup>3</sup>
Protein	2% – 7%	±0,15%
Lactose	0,01% – 6%	±0,2%
Added Water	0% – 70%	±3
Milk sample temperature	1°C – 40 °C	±1%
Freezing Point	- 0,4°C — - 0, 7°C	±0,001%
Salts	0,4% – 1.5%	±0,05%

#### Environmental Conditions :

Ambient air temperature — 10°C –40°C (option 43°C)  
 Milk temperature — 1°C – 40°C  
 Relative humidity —30% – 80%

#### ULTRASONIC STIRRER

Ultrasonic Stirrer having adjustable time & vibration frequency  
 Input Frequency 45Hz to 60 Hz  
 Timer 5 to 30 sec adjustable on TFT Screen

#### DATA PROCESSING UNIT

Memory : 4 GB  
 SPEED : 220 Mhz  
 PROCESSOR : 32 Bit ARM Cortex M7

#### INTERFACES

**INPUT :** RJ-41 Weighing Scale  
 USB Keyboard

**OUTPUT :**RS 232 Remote Display Unit/Serial Printer  
 USB Data Import to Pen Drive

#### GENERAL

Dimensions : 400mm x 130mm x 350mm  
 Weight : 5.900 Kg. Approx.  
 Power Consumption : AC 80 Watt Max. & 12 Volt DC 52 Watt Max.  
**Power Supply : 12 Volt 10 Amp. Adapter/12 Volt DC**

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### SYSTEM COMPONENT

- **Nuline Ultra Milk Analyser**

For Fat & snf Analysis

- **Ultrasonic Stirrer**

Remove Air from fresh milk before testing

- **Data Processing Unit**

For (FAT & SNF) recording, Billing & secure data transmission for data collection & MIS Reporting

- **Electronic weighing scale**

(40/60/100/200 Kg/500 Kg with liter facility)

- **Solar Power Supply**

12 Volt DC 100 Watt. Solar Panel

100 Ah Solar Tubular Battery

Solar Hybrid Charger

15 Mtr. Aluminum Cable

Solar Stand

- **Remote Display Unit**

6 Parameters : Member Code, FAT, SNF, QUANTITY, RATE, AMOUNT

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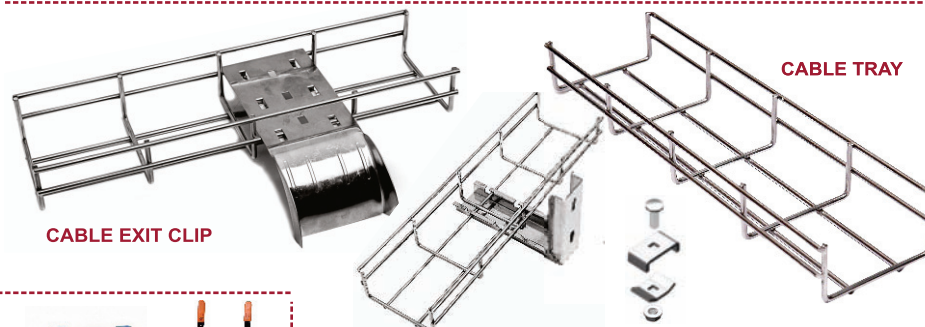
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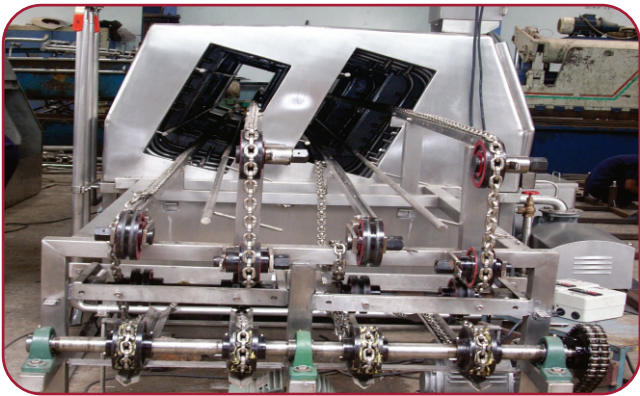




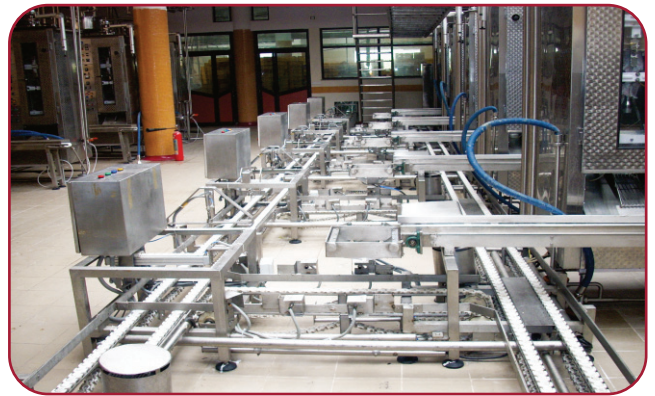
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**AUTO CRATE CONVEYING SYSTEM**

*CAPACITY :- 3000/5000/10000 LPH PER DAY*



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**SINGLE/ DOUBLE/ MULTICIRCUIT**

Commissioned at  
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**CIP SYSTEM**

**900+ SATISFIED CUSTOMER THROUGHOUT IN INDIA & ABROAD**

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# MilkoScreen™

For Milk Quality testing and Adulteration screening

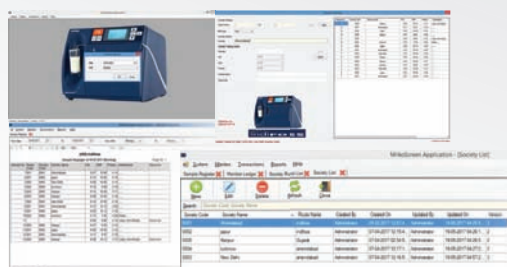
India's best quality,  
highest selling Milk analyzer

■ Accurate measurement of FAT, SNF and PROTEIN; based on proven FTIR technology



■ Adulteration Screening for Urea, Sucrose, Ammonium Sulphate, Maltodextrin, Added Water, Milk Abnormality

## The Mini Giant



MilkoScreen software allows you to keep records and generate reports, that streamlines the operations.

## The risk of adulteration is higher than you think

To increase the quantity of raw milk, some form of contamination and dilution keeps taking place either intentionally or accidentally. Impurities affect the entire supply chain and shows up at late production stage as a serious food safety risk.

## MilkoScreen offers highest returns on investment

Milk testing if done by conventional chemical methods, will cost Rs. 50/- per sample. While all these tests are done by MilkoScreen at only 25 paise per sample. It is faster, more accurate & provides reliable service.



## Customized Training Camps for you

IndiFOSS has various training modules. These can be customized to suit your needs and is available at your call. That is the IndiFOSS commitment.



Quality performance



Easy to operate



Compliant technology



Result in less than 45 seconds



Adulterants screening

FTIR technology is globally approved



Official Method 972.16

IDF 141

ISO 9622

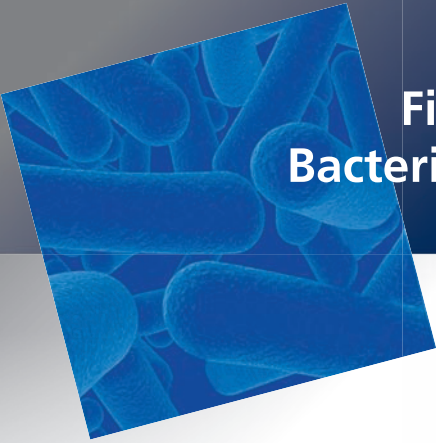
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## IndiFOSS Analytical Pvt. Ltd.

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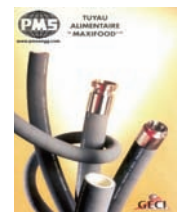


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- ✦ Batch Type
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- ✦ Wiped film Evaporator

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- ✦ Spray Dryer
- ✦ Fluid Bed Dryer
- ✦ Vacuum Band Dryer
- ✦ Vacuum Tray Dryer
- ✦ Ring Dryer
- ✦ Rotary Dryer
- ✦ Drum/Roller dryer

### MISCELLANEOUS EQUIPMENTS

- ✦ Milk Silo
- ✦ Butter Churn
- ✦ Butter melting system
- ✦ Road Milk Tanker
- ✦ Khoa Pan
- ✦ Screw Conveyor
- ✦ Bottle Sterilizer
- ✦ Rotary Valve
- ✦ Blow through Valve
- ✦ Steam radiator
- ✦ Disc Atomizer
- ✦ 10-25 kg Butter packing machine
- ✦ Twin shaft mixer
- ✦ Turbo Blender

- ✦ Paddle mixer
- ✦ Cone mixer
- ✦ Sigma Mixer
- ✦ High solids (75% TS) mixing equipments
- ✦ Ribbon Blender
- ✦ Finger Stirrer with baffles
- ✦ Mixer with turbine agitator at bottom and paddle stirrer at top
- ✦ Auto hot water washing station
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- ✦ Cheese kettle
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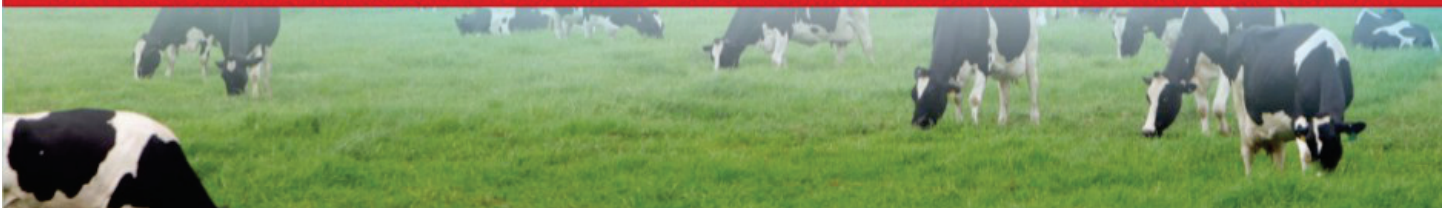
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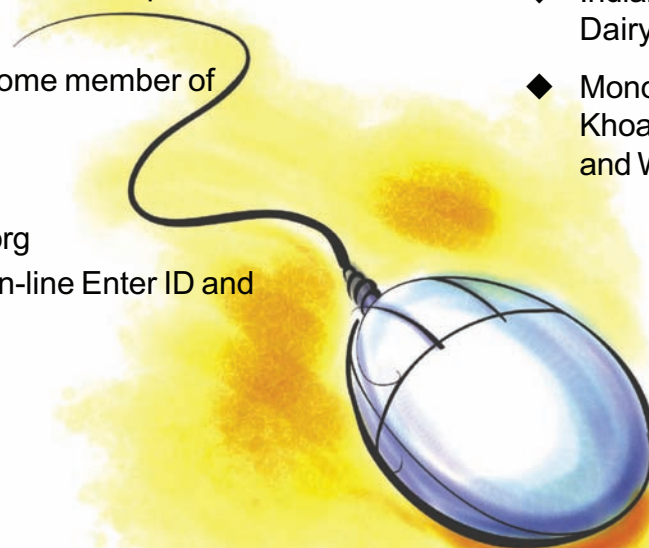
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**Ms. Arti Talwar**  
**Asst. Secretary, Indian Dairy Association**  
**IDA House, Sector-IV, R.K. Puram, New Delhi**  
**Phones: 91-11-26182454 / 26179781 Fax: 26174719**  
**Email: [admin@indairyasso.org](mailto:admin@indairyasso.org) / [idahq@rediffmail.com](mailto:idahq@rediffmail.com)**





5. Areas of Interests :

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<b>Brand Names</b>	
<b>Dealers in</b>	

6. Copy of registration certificate, latest audited Balance Sheet, MoA, MoU and any other Brochure or Literature/Company Profile attached (mandatory). Yes

7. Category

(a) Research Worker and Educationist	<input type="checkbox"/>	(d) Dairy industry such as manufacturer and or supplier of dairy equipment or appliances and milk product factories	<input type="checkbox"/>
(b) Milk Producer	<input type="checkbox"/>	(e) Others	<input type="checkbox"/>
(c) Professional and Planner	<input type="checkbox"/>		

8. Members are entitled to receive the periodicals of the Association free of charge. Overseas members will have to pay mailing cost if required by air otherwise mailing cost of periodicals by sea-mail is included in the membership fee.

9. The application form should be duly filled and returned to the concerned zone (detail mentioned below\*) of Indian Dairy Association along with the membership fee, paid by a Bank Draft / Cheque at par only.

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If admitted to the Association I undertake to abide by the constitution of the Association as contained therein or as amended from time to time.

Date : \_\_\_\_\_ Name: \_\_\_\_\_

Place : \_\_\_\_\_ Designation : \_\_\_\_\_

**(Authorised Signatory)**

\* **South Zone:** The Secretary, IDA (SZ), IDA House, NDRI Campus, Adugodi, Bangalore-560 030. Ph.: 080-25710661 Fax: 080-25710161. **West Zone:** The Secretary, IDA (WZ), c/o. NDDDB, Unit 12, Aarey Milk Colony, P.B. No.9074, Goregaon (East) Mumbai - 400063 Phones: 26856678, 26856689 Fax: 022-26856145, **North Zone :** The Secretary, IDA (NZ), IDA House, Sector IV, R.K. Puram, New Delhi - 110 022 Phones: 011-26170781, 26165355. **East Zone :** The Secretary, IDA (EZ), c/o NDDDB, Block-DK, Sector-II, Salt Lake City, Kolkata-700 091 Phones: 033-23591884-7.



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E-mail: admin@indairyasso.org/idahq@rediffmail.com  
Web: www.indairyasso.org

Please affix your photograph

## APPLICATION FORM FOR ORDINARY MEMBERSHIP (FOR INDIAN CITIZEN)

Title Mr./Ms./Dr./Prof.

### 1. Name of Applicant (in capital letters)

First Name	<input type="text"/>
Middle Name	<input type="text"/>
Last Name	<input type="text"/>

### 2. Office Details

Designation	<input type="text"/>					
Name of the Organisation	<input type="text"/>					
Address	<input type="text"/>					
Mobile:	Phone:					
Fax:	E-mail:	Pin Code	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### Residential Address

<input type="text"/>					
<input type="text"/>					
Pin Code	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### Mailing Address:

Office  Residence

### 3. Qualifications

Degree/Diploma	University/Institution	Years Awarded
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

### Experience

<input type="text"/>
<input type="text"/>
<input type="text"/>

### 4. Membership of Professional Bodies, if any

<input type="text"/>
----------------------

### 5. Date of Birth

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Day	Month	Year			

### 6. Based on your qualification and experience please indicate the category in any of the following for consideration of IDA:

- |                                      |                          |   |                          |
|--------------------------------------|--------------------------|---|--------------------------|
| (a) Research Worker and Educationist | <input type="checkbox"/> | (d) Dairy industry such as manufacturer and or supplier of dairy equipment or appliances and milk product factories | <input type="checkbox"/> |
| (b) Milk Producer                    | <input type="checkbox"/> | (e) Others  | <input type="checkbox"/> |
| (c) Professional and Planner         | <input type="checkbox"/> |   |                          |

**Declaration :** The above information is true to the best of my knowledge and belief. If admitted, I undertake to abide by the Constitution of the Association as contained therein or as amended from time to time.

Date:

(Signature of the applicant)

P.T.O





**7. SPONSORSHIP: This is mandatory**

To be sponsored by two members of the Association who know the applicant personally and believe him/her to be a suitable person to be admitted to the Membership of the Association.

Name-Designation and Address	Membership No.	Signature
(i)		
(ii)		

**8. Eligibility Criteria:**

- Any person who has had or is undergoing a formal training in dairying or allied sciences, or who is or was on the staff of an institution or organisation connected with the dairy or allied sciences.
  - Any person who is involved in dairying activities or is in a position of responsibility which could promote the growth of dairy science and industry can become member of the association subject to approval of the CEC.
9. The application form should be duly filled and returned to the concerned zone (detail mentioned below\*) of Indian Dairy Association along with the initial membership fee of Rs. 1500/-, paid by a Bank Draft / Cheque at par only. The fee mentioned here under is for one year i.e. April to March.  
The members will have to apply for renewal every year. The renewal can be done by sending DD for **Rs. 1000/-** before **31st May** after which re-admission fee of Rs. 100/- will become applicable.

**DD No.** \_\_\_\_\_ **Date** \_\_\_\_\_ **Name of the Bank** \_\_\_\_\_

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## Best Paper Awards

To encourage contribution towards scientific knowledge, IDA presented Best Paper Awards for its two journals *Indian Dairyman* and *Indian Journal of Dairy Science* at the 46<sup>th</sup> DIC

### INDIAN JOURNAL OF DAIRY SCIENCE

#### Dairy Processing 2016

*First*

Screening and characterization of exopolysaccharide producing *Lactobacillus*  
U Nath and RK Malik

*Second*

Development of synbiotic lassi containing honey: studies on probiotic viability, product characteristics and shelf life

Shruti Sharma, Sreeja V and Jashbhai B Prajapati

#### Animal Production 2016

*First*

Effect of hormonal and herbal therapy at calving on postpartum estrus and fertility response and serum hormonal profile in crossbred cows

RV Patel, CT Khasatiya, SC Parmar, JK Chaudhary and RN Gelani

*Second*

Effect of feeding *Azolla pinnata* on growth performance, feed intake, nutrient digestibility and blood biochemicals of Haryana heifers fed on roughage based diet

Debashis Roy, Vinod Kumar, Muneendra Kumar, Rajneesh Sirohi, Yajuvendra Singh and Jai Kumar Singh

Use of organic and inorganic selenium as a supportive therapy in treatment of bovine subclinical mastitis – A study.

Sripad K, Upendra, HA, and Ramesh, P

#### Economics And Extension 2016

*First*

Spatial and temporal dynamics of bovine

wealth in India: An Economic Analysis  
Sserunjogi B and Parminder Kaur

*Second*

Consumption Pattern of milk and milk products in rural and urban areas of Kerala  
M Krishnadas, PK Dixit, M Sivaram, Lalith Achoth and MCA Devi

### INDIAN DAIRYMAN

#### Technical Aspects 2016

*First*

Management of dry period – An approach to enhance productivity

K. Puhle Japheth, R.K.Mehla, Ramendra Das, Thulasiraman P., Aasif A. Sheikh and Binoy Chandra Naha

Advancements in Packaging of milk & milk products

Chaitali Chakraborty and Sanjana Chakraborti

*Second*

INAPH -- Enhancing the productivity of cattle and buffaloes

Nilesh G Nayee, Ranmal M. Ambaliya, Sujit Saha, K.R. Trivedi and Mohan Namjoshi

#### Commercial Aspects 2016

*First*

Changing scenario of bovine semen production in India

Dilip Rath, K. Kasiraj and M.U.Siddiqui

*Second*

Formaldehyde influences test results for fat, BR reading and detection of detergent in milk

S. Singh, M.K.Srivastava and S. Chopra





# awards

## E-poster Presentation

### List of Winners

#### Screen 1: Processing and Value Addition towards efficiency

##### FIRST

**Electrospun On-Package UV-activated Smart Oxygen Sensor for Modified Atmosphere Packaged Dairy Products**

*Narender Raju Panjagari, Shivam Panwar, Saniket Deepak Zagade, Richa Badola, Prashant Saurabh Minz, Ashish Kumar Singh, ICAR-National Dairy Research Institute, Karnal, Haryana*

##### SECOND

**Caseinolytic protease C (clpC) gene, a suitable molecular target for differential identification of Bifidobacterium species**

*Rajashree Jenaa, Prasanta Kumar Choudhury, Ravinder Kumar Malik, Anil Kumar Puniya, Sudbir Kumar Tomar ICAR-National Dairy Research Institute, Karnal, Haryana*

##### THIRD

**Process development for concentration of whey protein and ACE and alpha glucosidase inhibitory peptides generation by proteolytic Lactobacillus spp.**

*Aiswarya S. Panicker, Anusha Kokkiligadda, A. Jagan Mohan, S. K. Tomar, Surajit Mandal, ICAR-National Dairy Research Institute, Karnal, Haryana*

#### Screen 2: Processing and Value Addition towards efficiency

##### FIRST

**Green Extraction of carotenoids: Natural Colorant for Flavoured Imitation Milk Preparation**

*Ms. Swati Tivari, Neelam Upadhyay, Ashish Kumar Singh, Mr. Bhavesh Baria, ICAR-National Dairy Research Institute, Karnal, Haryana*

##### SECOND

**Effect of process variables on Plasmin activity and Bio-activity of Cheddar cheese**

*Shamim Hossain, Yogesh Khetra, Latha Sabikhi, Ganesh Sunil Saswade, Sangita Ganguly, ICAR-National Dairy Research Institute, Karnal, Haryana*

##### THIRD

**Effect of process variables on quality of Ricotta cheese from buffalo milk**

*Ganesh Sunil Saswade, Yogesh Khetra, Sangita Ganguly, Shamim Hossain, Latha Sabikhi, ICAR-National Dairy Research Institute, Karnal, Haryana*

#### Screen 3: Processing and Value Addition towards efficiency

##### FIRST

**Process Development and Shelf-life Enhancement of Milk-Coconut Sweet**

*Bhopal Singh, Kaushik Khamrui, Writdhama Prasad, ICAR-National Dairy Research Institute, Karnal, Haryana*

##### SECOND

**Technology of Oil-in-water Emulsions Developed as a Potential Delivery System for Phytosterols into Food Matrix**

*Nitika Goel, P.K. Singh and S.K. Kanawjia, College of Dairy Science and Technology, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab*

##### THIRD

**Process standardisation of Milk Ginger Tablet**

*Aiswarya K V, Akhila M S, Ajuna M, Amal B K V, Sreya U, College of Dairy Science and Technology, Mannuthy, Thrissur.*

#### Production and Economics towards efficiency and Marketing and logistics towards efficiency

##### FIRST

**Factors Affecting Consumer Preference of KVASU Pasteurized Milk**

*Ayana S, Adila C.K, Farha P.T, Krishnapriya K, Rarisilpa P.A, College of Dairy Science and Technology, Mannuthy, Thrissur.*

#### Quality Assurance for achieving efficiency

##### FIRST

**Relevance of physico-chemical parameters to distinguish cow ghee from buffalo ghee**

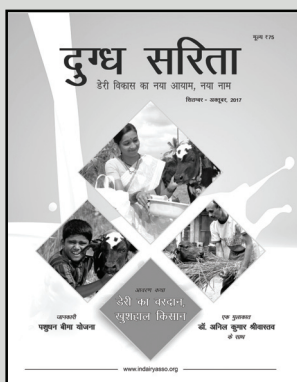
*Sonia Mor, Vivek Sharma, Sumit Arora, ICAR-National Dairy Research Institute, Karnal, Haryana*

##### SECOND

**Genome mining of indigenous probiotic Lactobacillus reuteri LR6 for genetic determinants of probiotic attributes**

*Chhaya Goyal, S.K. Tomar, R. K. Malik & Sachinandan De, ICAR-National Dairy Research Institute, Karnal, Haryana*

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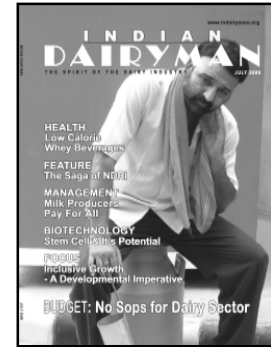
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The manuscript of any article will be received for publication with the understanding that it has not already been published or simultaneously submitted or accepted for publication elsewhere. The article once approved shall be included in the list of approved articles and it will be published as per the priority determined by the Editorial Desk.

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The manuscript should be related to dairy industry only and should enrich the knowledge of our readers. A research paper is not considered for publication in the Indian Dairyman.

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Two copies of the manuscript of the proposed article along with a photograph of the author(s) may be sent. The manuscript should be neatly typed in double spacing (either laser printout or Electronic typewriter output). Do not send the material typed with manual typewriter. The manuscript may also be sent through e-mail at [indiandairyman68@gmail.com](mailto:indiandairyman68@gmail.com), so as to minimise the possible errors in printing.

The manuscript should not exceed 6-8 pages of A4 size of the Indian Dairyman format. The article must be concise and free of any discrepancy. Standard abbreviations should be used in the text. Words given in italics should be underlined. All figures, sent along with the articles, should be drawn on butter (transparent) paper or should be a laser printout (no xerox copy).

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All papers should be written in English.

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Generally, the title of the article should not exceed 15 words.

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The introductory part should give appropriate background, clearly stating the objectives of the paper.

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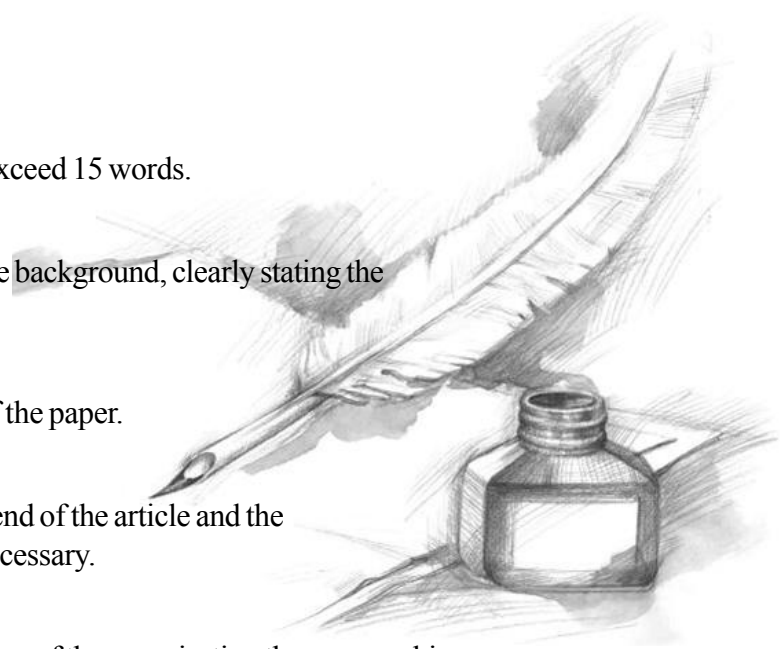
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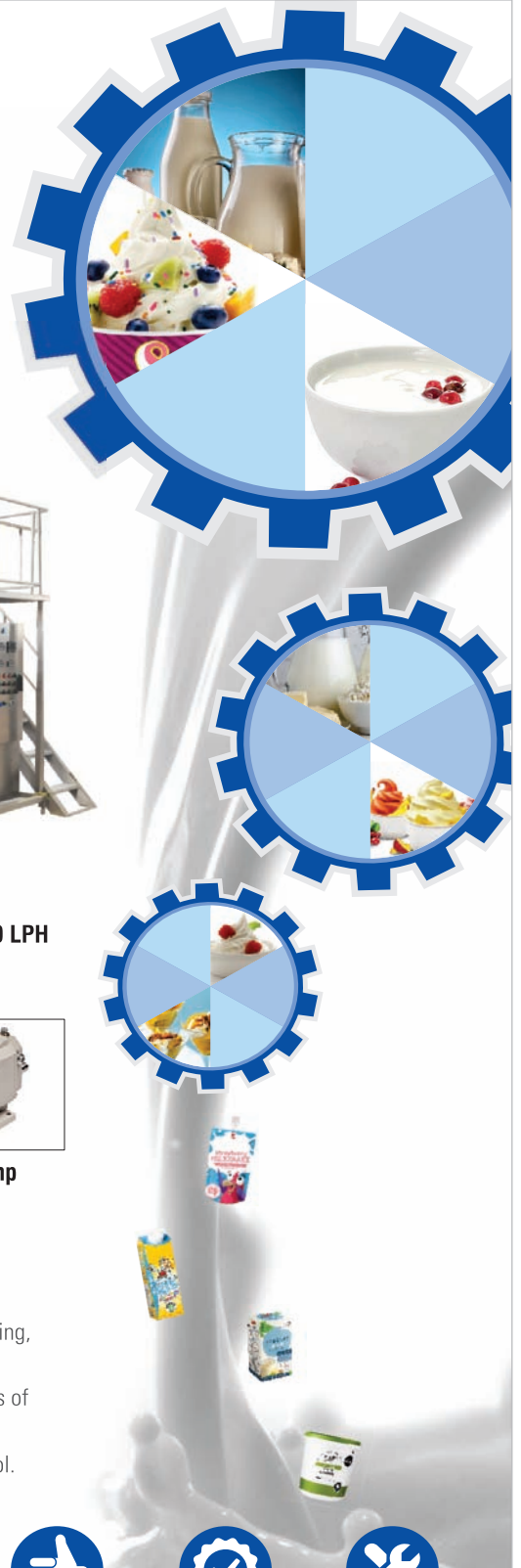
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