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FORTNIGHTLY NEWSLETTER

Dairy Pulse 147th Edition (1st to 16th, December 2021)



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- 1 Are you aware of the total number of SKU (Stock Keeping Unit) your company is making today ? **Y / N**
- 2 Are you aware of total number of SKU your company will be making in 2023 ? **Y / N**
- 3 Do you know how much % of the SKU in 2023 will be absolutely new ? **Y / N**
- 4 Do you know how many new products are under development in your organization today ? **Y / N**
- 5 Do you remember last innovative dairy product which you launched in last three years ? **Y / N**
- 6 Are you aware of a gated concept for product development and how many gates are there ? **Y / N**

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Dairy Pulse 147th Edition (1st to 16th December, 2021)

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Indian News

The agri-tech network effect is impacting one smallholder farmer at a time

DEC 16, 2021

<https://dairynews7x7.com/the-agri-tech-network-effect-is-impacting-one-smallholder-farmer-at-a-time/>



There's a great opportunity to connect these farmers to an integrated value chain, unlock their potential and realise tremendous financial gains.

According to Food and Agriculture Organization (FAO), more than one-third of the food volume in the world is produced by smallholder farmers. Their landholdings range between 1-4 hectares. In India, the importance of smallholder farmers is even higher – around 50 per cent of food production happens in small- and mid-holder farms that cover more than 80 per cent of total land under cultivation by FAO estimate. Paradoxically, it's the smallholder farmers who go hungry most often and struggle the most to make farming sustainable for them. Input costs weigh them down. Economies of scale are difficult to achieve. Consequently, optimal produce value and profitability remain elusive. This group also finds it hard to win regulatory battles necessary to protect their interests.

These challenges are not unique to India. Many smallholder farmers across South-East Asia, Africa and parts of Latin America face similar challenges. And therein lies a great opportunity, to connect these farmers to an integrated value chain, unlock their vast potential and realise tremendous financial, social and environmental progress.

In fact, an inclusive food value chain, where every stakeholder is linked to the wider tech-enabled 'network', is the easiest and clearest path to empower the farmers. It leads to im-

proved yields and quality, enhanced skills, better access to processing infrastructure and markets, and thereby, considerably improved net farmer incomes. It also makes institutional credit accessible to small-holder farmers, who otherwise pay a significant premium on interest cost (2-3 per cent per month) on informally borrowed loans.

Networks bring scalability

One of the most important results of connecting farmers to an integrated supply chain is that they benefit from what is known as the network effect – a phenomenon which states that the greater the number of participants in a system, the higher the positive effect the system can bring to its participants.

The network effect has disrupted and transformed many industries. Amazon and Alibaba's integrated platform marketplaces, Pinduoduo's success in amalgamating services and stakeholders in the food value chain in China, the phenomenal reach of global banking and digital payment platforms – these examples are a testament to the fact that the larger the network, the more it benefits the stakeholders.

The network effect for small farmers creates many options for good quality inputs, predictive analytics and advisory, credit, insurance and more. The anchor platform makes farmers visible to various stakeholders, including buyers, sellers, bankers and service providers. This visibility triggers the network effect.

With widely available, low-cost data, affordable smartphones and increasing awareness in rural farming communities, we firmly believe that smallholder farming is ripe for this positive disruption.

Companies, large and small, are trying to connect the rural ecosystems in various ways. In India, we have many emerging agri start-ups that are successful in their pockets. Some large agri-food corporates are also influencing stakeholders in their own operational spheres.

Yet, all these efforts are limited and not inclusive enough. To arrive at the bigger picture, we need to succeed in creating a large enough network base, with the right amount of breadth and depth of services, wider market access and distribution capabilities.

Small steps, big gains

The farm-to-fork integration will not change the ground realities of farmers overnight. Yet, even small initiatives, implemented successfully, are proven to deliver big gains.

A great example of agri-tech network effect is the use of traceability and geographical indication (GI) tagging solutions. The GI-tagged products in India, while unique and value-laden, couldn't fetch commensurate prices to benefit the growers. Now, end-to-end traceability solutions have changed the picture. Traceability leverages blockchain to enable consumers to identify and differentiate authentic products.

At the touch of a smartphone button, buyers know the origin of products and related information. It also assures aggregators, distributors and retailers of the product quality and source. The overwhelming response to traceability solutions from cultivators of the GI-tagged products gives us the confidence to invest in tech for seamless integration of demand and supply.

Another example of the network effect is the dairy value chain. Even before the digital revolution, milk co-operatives began the consolidation of the cattle farmers by creating a strong support ecosystem.

Today, with digital payments and a supportive ecosystem for rural entrepreneurship, many dairy start-ups have attracted thousands of dairy farmers, in a short time. Farmer credit is on offer to scale up operations. Trainings are

held to yield the best quality milk. Innovations like asset-sharing platforms are proving popular and are enhancing the network effect in the ecosystem.

Productivity and sustainability go together. Smallholder farmers are a key demographic playing a role in the achievement of UN Sustainable Development Goals (SDGs) globally. Here, the network effect plays a crucial part again. As more small farmers connect, they not only work together to improve productivity and income, but also to make their farming more sustainable.

The effects of climate change, water scarcity and rampant use of chemicals and fertilisers are felt most acutely by smallholder farmers – even a slight dip in food production due to heat-waves, storms, poor soil quality hits them hard financially.

Collective action through a platform helps them to conserve resources and access environment-friendly products and practices. Farmers facing similar challenges across geographies can come together, form a self-interest group to ensure sustainability in their operations.

The case for end-to-end integration

Another positive effect made possible by networks or platforms comes from the use of agri-tech – the use of which is often only possible for larger players. Using similar network-related synergies, agri-tech has the potential to help India achieve its next 'Green Revolution'.

According to a recent EY study, the Indian agri-tech market is still in its nascent stage with a paltry 1 per cent penetration valued at \$204 million. EY estimates that it could grow to \$24.1 billion at 90 per cent+ penetration in the next five years.

Though the sector faces challenges, innovative tech-based solutions can make India a global agri-export leader. Despite the pandemic, investors have pumped in about \$600 million to Indian agri-tech companies in 2021 till date. A

FICCI-PwC report estimates that around \$10 billion will be invested in Indian agri-tech start-ups over the next 10 years. This clearly speaks for the tremendous market potential of the sector. To make the most of this investor enthusiasm, we need to build platforms that combine hi-tech and human-touch approaches, deliver a broad portfolio of products and services; and create tangible, credible success stories that bring smallholder farmers on board. A favourable regulatory environment will make a difference too. Government incentives are al-

ready helping digitise the villages, creating export incentives and facilitating infrastructure creation. This will help Indian farmers connect with high-value export markets.

In conclusion, achieving an inclusive and transformational network effect in agri-tech is the key to truly empowering India's smallholder farmers. Globally, it is one of the largest opportunities to integrate and uplift 2 billion people and contribute to solving the food problem for the planet. Given the current market and investment scenario, we are firmly on the path to making it happen.

Trouw Nutrition gamechanger partnership with Stellapps to help farmers

DEC 16, 2021

<https://dairynews7x7.com/trouw-nutrition-game-changer-partnership-with-stellapps-to-help-farmers/>



The mutually-beneficial partnership commits both parties to a close cooperation to find innovative ways of Feeding the Future, Nutreco's purpose. It follows an announcement in October which confirmed that Stellapps had completed its first close towards its pre-series C round, led by Nutreco, alongside other investors.

In addition to high-quality feed products, today's nutritional partnership will see Stellapps benefit from Trouw Nutrition's 90 years of experience; its innovative tools and farm management expertise.

The partnership follows a successful 10-month pilot with 5,500 farmers across Uttar Pradesh and Kolar, Karnataka, which saw the use of Trouw Nutrition products, alongside mentoring and training, and resulted in improved farm outputs, such as milk yield and profitability.

"I have been feeding Trouw Min to my cows from February 2021", says Sanjay Yadav, a farmer from Chandauli, Uttar Pradesh. He said he has noticed an immense improvement in the quality of the milk and the health of his cows since he started using the product. "Milk fat and SNF has improved, my cows are healthy and their coats have a good sheen," remarks Sanjay. Both parties will now work together to build a strong advisory system that ensures small-holding dairy farmers in India increase their productivity and profitability. This is an important factor at a time when the Indian government is pursuing the target of doubling farmers' incomes by 2022. Today's announcement will accelerate this goal.

Trouw Nutrition CEO Saskia Korink says, "The new Stellapps end-to-end digitised model is a game-changer for Indian dairy farmers, and it is a shining example of innovation within our sector, helping us move towards feeding the future sustainably.

"By partnering with Stellapps we can expand our reach in India and offer solutions to help to increase milk quality and yield for dairy farmers. I am thrilled that Trouw Nutrition will play an

important role in supporting Stellapps' customers by providing its nutritional health solutions." In India, farmers with smaller herd sizes often face barriers when seeking to grow their businesses sustainably, including challenges such as financial support, accessing high-quality products and services, and expanding their customer base.

Yet despite this, there are huge opportunities for India's small-holding community. India is the world's largest dairy market; approximately 570 million litres of milk are produced daily, and recent research indicates that the country's dairy market is set to increase by 6% between 2021 and 2026.

India seeks duty free market access for dairy, spices, cheese from UAE

DEC 16, 2021

<https://dairynews7x7.com/india-seeks-duty-free-market-access-for-dairy-spices-cheese-from-uae/>



India has urged for duty-free market access from the UAE for spices, cheese, eggs and textiles as a part of the free trade pact it is working out with the grouping.



India is keen to get duty-free access for its fresh and frozen bovine meat, dairy, spices, organic chemicals, and paper goods. Photo courtesy: Dubai Airport

Due to concerns about bird flu, the UAE has now banned poultry imports from India, while India's textile exports are subject to a 5% duty, Krishijagran.com reported.

"We are desperate to sell poultry products to the UAE and are hopeful that they will allow imports from India, beginning with eggs because

eggs are a big market there," said an official, adding that India has assured that it is adhering to the World Organization for Animal Health's biosafety standards to prevent infection.

According to the official, the UAE is eager to obtain duty exemptions for dates, confectionery, and sugar-based products.

India is keen to get duty-free access for its fresh and frozen bovine meat, dairy, spices, organic chemicals, and paper goods. It has listed 1,100 odd products, including washing machines, air conditioners, refrigerators, spices, tobacco, cotton fabrics, textiles, and leather, whose exports it wants to expand under the pact.

Last month, India sought duty free market access for its leather goods in countries, including UAE, UK and Australia, with which it is negotiating Free Trade Agreements (FTAs) to boost manufacturing and exports, Commerce and Industry

Member countries of GCC are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates (UAE).

Dairy sector in India: Can climate change limit its growth?

DEC 16, 2021

<https://dairynews7x7.com/dairy-sector-in-india-can-climate-change-limit-its-growth/>



Only in a matter of three rigorous decades, India transformed its destiny from being a country witnessing acute milk shortage to a country leading the world in milk production, standing at 100 million tonnes in an average year.

Operation Flood (1970–1996) helped the rural milk cooperatives flood and nourish the urban dairy sector markets connecting via deeper networks of procuring and marketing milk across the entire nation.

This could not be done alone through strengthening supply chains but involved greater accessibility to veterinary services, penetration of technologies like Artificial Insemination (AI) in dairy, awareness regarding proper feed and farmer education.

And consequently, the sector proponents could gain 4–5 percent per annum.

What about the boom now?

Though India enjoys a privilege and occupies the top-ranks in the world, with the industry worth INR 11,357 Billion that can be equated to the combined output value of both rice and wheat in India.

But this growth seems to have slumped to 3 percent in recent years.

This is worrisome as the estimation done by National Dairy Development Board (NDDB), has claimed this demand for milk to rise up to 180 million tonnes by 2022 because of population growth, rising incomes, inevitable urbanization and westernization of diets.

Instead, the sector being the single largest agricultural commodity with close to 4 percent share in the economy, has suffered neglect

in the Government annual budget, decline in investments and is now even facing the criticisms. Though there is a greater convergence of various departments in schemes for the sector like the Department of Animal Husbandry & Dairying, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Food Processing Industries, Department of Rural Development and different states' governments.

It has another perspective to the same.

Millions of small and marginal farmers in India have been sustaining because of additional incomes from dairying, owning two to three animals and producing an average of 5 litres of milk.

It is worth noting that approximately a third of rural incomes are dependent upon dairying. It has never been separate from the farming itself, providing an impetus to circular economy.

The feed for farm cattle comes from the remnants of the crops while their dung can be used as manure to add productivity to the soil.

These pro-poor development strategies have found to be of greater benefits to Indian farmers as the livestock distribution is far more equitable than the so-called farm distribution in India.

Thereby, any change in the dairying environment will have astounding and rippling effect on the livelihoods of small and marginal farmers in addition to the social elevation of many.

The health security may perish along with the food security of the entire nation.

Farmers and their problems:

The country has witnessed greater shift of farmers from being mere stakeholders in the supply chain to the ones in the center of future decision making.

Several Farmer Producer Organizations (FPOs) are operating well and driving investments on

their own. However, several challenges especially in the Indian dairy sector persists. Low productivity per animal, hygiene, inadequate milk testing facility and dairy health issues and problems arising out of mismanagement like Anti-Microbial Resistance (AMR). A recent report by Food Safety and Standards Authority of India (FSSAI) has revealed the presence of aflatoxin M1 and other hormone residues in milk, that too beyond permissible limits. We face tough competitions from the world leaders in dairy production like New Zealand, Canada, European Unions etc., being cautious of signing any delimiting agreement with such countries.

In fact, it was one of the reasons that prompted India to stay out of Regional Comprehensive Economic Partnership (RCEP)

But it is not just the world countries we should be wary of. There is another bigger threat. Indian Dairy Sector and the climate change : Climate change has triggered a revolution across this planet. Both dairy farming as well as climate change have imposed great influence on each other.

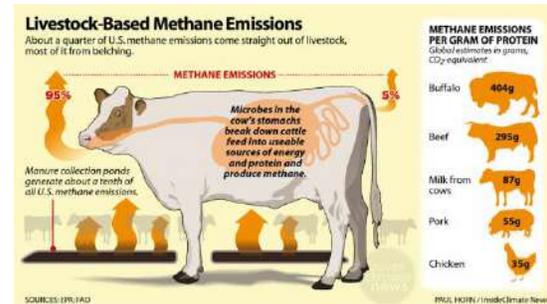
It has been widely accepted now that Agriculture, because of its cattle rearing component, contributes about 16% of India's greenhouse gas (GHG) emissions, major gases being the methane (CH₄), nitrous oxide (N₂O) and carbon dioxide (CO₂).

Methane recently, has been found to cause significant damages to the planet, 75% of which comes from the dairy holdings itself.

Plus, apart from certain emissions, this sector is also accused of degrading several other crucial ecotones like wetlands, grasslands etc. as well as on other natural resources like Water.

Big dairy firms like Nestle, Danone have been suspected as culprits and if we are to believe a report by Institute for Agriculture and Trade Policy (ITAP), these polluters continue 'with impunity' and may end up greenwashing.

As the Director IATP explains: "The climate footprint of Europe's big meat and dairy companies rival the fossil fuel giants yet they continue to operate with impunity".



"The handful of companies that have climate plans rely on accounting tricks, greenwash, and dubious offsets to distract from the fundamental changes needed to cut emissions, while off-loading many of the costs and risks onto farmers in their supply chains."

Animal abuse, land cleaning, destruction of natural habitats, reckless trade and unsafe shelter facilities are already concerning.

But that is just not enough, especially in the current hour of Pandemic lessons to cherish.

The dairy also, acts as a storehouse for various zoonotic diseases.

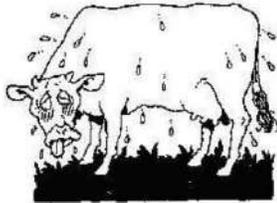
In contrast, the climate change will probably impact milk production in cattle because of their sensitivity to excessive temperature and humid conditions.

Also, with extreme heat in future, a constant supply of high-quality fodder for dairy cattle may become difficult to facilitate, let alone managing the nutritional status in the feed. Similarly, as per certain Experts in the line, even the prevalence of certain parasitic nematodes or liver fluke will also rise with additional warming of Earth.

How climate change affects dairy production

How does climate change affect dairy production

- Shortening of growing seasons → less feed
- Water scarcity and droughts → less feed
- Floods and crop spoilage
- High temperatures, heat stress



What can be corrected for the Dairy sector to sustain?

Even with the best of Climate data and Science at our disposal, one cannot correctly ascertain what's to happen in future.

With nearly 150 million livelihoods at stake, the leaders of this generation will have to think of a distorted future as a probability and hence the need to chalk-out alternative employment opportunities for the people engaged to be sunken in.

Though there have been certain apprehensions regarding the efficacy of planting trees, social forestry can in any case, serve the humanity in this regard.

There are available Sustainable Dairy Practices through technological and farm based best practices, interventions as well as solutions. Recycling of nutrients is essential to keep the circle of life going in the Biosphere. Hence one needs to ensure that Carbon sinks are in plenty and no process inhibits such refoolment of critical minerals.

Meanwhile, for greater adaptation and boost to energy transition, farms can use solar power to reduce their footprint or for recycling water coming from these cattle sheds.

In a warming planet, this may even find significance for cooling the living place for cattle but that is extremely far-fetched idea to deliver, especially in India.

But we shall be sure now that we need to inject resilience in Dairy farming, that too at a faster pace to be the leader of the world, at least in this sector.

'J&K to become self-sufficient in milk production'

14 Dec, 2021, 7:30 pm

<https://www.greaterkashmir.com/business/jk-to-become-self-sufficient-in-milk-production>

Jammu: Principal Secretary Department of Agriculture Production & Farmer's Welfare and Animal and Sheep Husbandry Department, Navin Kumar Choudhary today addressed First Dairy Conference for capacity building of farmers organized by the Department of Animal Husbandry Jammu.

While addressing the participating farmers through video conference, he reaffirmed that Jammu and Kashmir is fast becoming self-sufficient in milk.

He added that during last two years nearly 7 lakh people have been provided employment in the agriculture and allied sectors.

During his address, Navin urged the farmers especially big dairy producers to focus more on value addition rather than on milk production only.

He said that the factories can make milk products like butter, ghee, etc where they can also avail benefits of government's Parwaz scheme under which they can ship their produce in the shortest possible time to national and international markets.

On the occasion, he also congratulated the organizers, resource persons and farmers for the capacity building programme and hoped that the participants would take many positives from the programme and apply them in their

dairy businesses in order to run their units successfully and profitably.

On the occasion, he informed that J&K is among top performers in agri and allied sectors and recently in its report, NITI Ayog has ranked the UT at 3rd place in farmers' income ratings and 5th in agri-allied sectors.

Crediting the increase in milk production to the Integrated Dairy Development Scheme (IDDS), he said J&K is now exporting milk to neighbouring states like Punjab and added that the additional Rs 20 crore has been sanctioned under IDDS which will benefit dairy farmers in a big way.

On the occasion, the Principal Secretary also interacted with the dairy farmers and enquired about the benefits of the programme.

The conference was organized by the Department of Animal Husbandry, Jammu on Feed and Fodder Management for increasing milk production while as Dr SS Lathwal, Principal Scientist, livestock production & Management, NDRI, Karnal Haryana; Mohan Singh Ahluwalia, Union member, Animal Welfare Board of India and Dr AK Pathak, Senior Assistant Professor, Animal Nutrition, SKUAST Jammu were resource persons.

Parag Milk Foods Ltd launches campaign for Gowardhan Ghee

Dec 14, 2021 3:38 PM

<https://www.exchange4media.com/advertising-news/parag-milk-foods-ltd-launches-campaign-for-gowardhan-ghee-117341.html>

Parag Milk Foods Limited, the makers of dairy products like Gowardhan, Go, Pride of Cows and Avvatar, launched an exclusive campaign for their flagship product Gowardhan Ghee emphasizing on the importance of consuming ghee during winters. It weaves in the message of how having ghee in our food helps to keep one warm and healthy. Ghee is an important ingredient of Indian kitchens and the campaign aims at reiterating the immunity-boosting power of ghee through the short film. The video depicts the excitement of a young boy with the onset of the winter season and shows how everybody in his family is preparing for this season by purchasing thermals, washing blankets, enjoying a hot cup of tea. The preparation is incomplete as the family realizes that the container of Gowardhan Ghee is empty. This quickly prompts the grandmother to tell her son to get Gowardhan Ghee while returning home. The campaign subtly points out while we prepare for winter from the outside, it is equally important to prepare our body from the inside through a healthy and nutritious diet.

Speaking about the campaign, Akshali Shah, Sr. VP- Strategy, Sales & Marketing, said, "After long summer months, Indians look forward to winter every year and food continues to remain a highlight of the season. Through this campaign, our aim was to spread the message that while we prepare ourselves for winter through small rituals, it is imperative to maintain our health through consumption of the much-needed nutrients. This is possible by adding ghee to our winter essentials to help us keep warm and strong against the dropping temperatures."

She further added, "Our key objective is to build awareness around pure cow ghee and re-emphasize our leadership position in the ghee segment. The campaign is thus designed to offer a familiar setting that consumers can relate to and build direct visual association of the category with the brand. We have taken 360-degree holistic approach by promoting the Campaign on TV, Radio & Digitally. We hope that our customers will resonate with this campaign and continue to relish our products across seasons."

Shruti Nayak Sharma, Creator, Imlli Adrakee, said, "We couldn't have got a more exciting brief for the season. Ghee is such an integral part of the Indian household in winter. Through 'Thand Padi' Gowardhan ghee announces a hearty shoutout to all the people prepping for the season. We at Imlli Adrakee are so excited to be a part of it."

Sidhesh Pai, Chief Growth Officer, Imlli Adra-
kee, added "At Imlli Adrakee we always strive to

deliver brand centric communication based on a strong consumer insight. This film weaves the brand beautifully in an existing consumer practice of getting ready for the winter."

Gowardhan Ghee 'Thand Padi' film is directed by Nitish Budhkar and shot by Dhananjay Navagraha. The larger campaign aims to build awareness of cow ghee amongst the youth and urban population.

From Poor Cooperative to Successful Corporative : Ministry of Coop

DEC 14, 2021

<https://dairynews7x7.com/from-poor-cooperative-to-successful-corporative-ministry-of-coop/>



A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations. They do it through a jointly owned and democratically controlled enterprise. The essence of cooperation lies in bringing the diverse group together. Infuse inclusion by giving them voice and then create belongingness by offering ownership.

History

The first mutual aid society in India was probably established in 1889 in the princely state of Baroda. Initially Urban cooperative credit societies were formed to meet the consumption oriented credit needs of its members. Legal framework of Cooperative societies was framed in 1904 with the enactment of Cooperative Credit Societies Act 1904. This act was amended in 1912 with a view to broad basing it to enable non-credit societies also. The Maclagan Committee of 1915 was appointed to review their performance and suggest measures for strengthening them in 1915.

Later on the scope of this act covered banks and cooperative financing agencies also in urban and rural areas. The cooperative societies structure in India saw an increase in agricultural produce prices during the Second World War. In post independence era the footprint of these societies broadened from agricultural market to the credit, fisheries, housing, banking etc. This led to classification of Societies in six distinct areas namely Farming, Credit, Producer, Consumer, marketing and Housing. In 2002 Multi-state Cooperative Societies Act (MSCSA) 2002 was enacted. Prior to this Cooperative society was a state subject. MSCSA came under the central legislative. The new legislation was to provide, promotion and development, reducing regional imbalances and capacity building of cooperative. Still nothing much was achieved. In 2002 again, National Policy on Cooperative societies was published.

Cooperative Infrastructure in India

There were many committees being formed to evaluate and review the functioning of Cooperative infrastructure in India. All India Rural credit Survey Committee Report 1954, Chaudhry Brahm Prakash Comm 1990, Mirdha Committee 1996, Jagdish Kapoor Committee 2000, Vikhe Patil Committee 20021 and S Vyas

committee 2001/2004 are the most prominent amongst those. The last committee strongly advocated the need to replace the existing government dominated cooperative laws by a new people centric legislation. There was a strong recommendation to legally protect the cooperative societies. Most of the committees were of the opinion that the state governments used the cooperative societies for their political benefits.

This led to 97th Constitutional Amendment Act 2011 by bringing forming cooperative was added to the Fundamental Right giving constitutional protection to the cooperatives. Simultaneously the states were asked under the directive principle of state policy to promote voluntary cooperative formation. The state will also ensure autonomous functioning of such cooperatives with democratic control and professional management. The states were also made responsible for providing funds to cooperatives as well as to ensure fair and free elections as well as audits of these cooperative societies. States will also ensure not only ease of starting a society but ease of exit also. The states were asked to act pro cooperative manner.

Ministry of Cooperation

In July 2021, a new ministry has been formed to create prosperity through cooperative. Ministry of Cooperation is basically meant for people at grass roots level. This will also help in ease of doing business for both societies and multi state cooperative. It was earlier announced during Budget announcement of 2021.

Current Ministry of Cooperatives may extend the objectives of 97th amendment by taking full control of this ministry. Till now it was part of Ministry of agriculture and cooperative development. As per the National Cooperative Policy the following constraints were identified for the sustainability of cooperative society structure in the country.

Legislative and Policy Constraints

Resource Constraints

Infrastructure Constraints

Institutional Constraints

Constraints related to members awareness
Constraints arising out of Excessive government controls and needless political interference
Moment of truth

Cooperative style business is not financially profitable in India. India has over 8 lakhs cooperative societies, which are active in around 55 distinct areas related to six broad categories mentioned before. These cooperatives have close to 280 millions members. Dairy cooperatives numbering around 1.6 lakhs and agro-based cooperatives with around 0.8 lakhs members make up for almost one third of the total cooperatives in the country.

Most of the time the Amul model is being discussed while talking of Cooperative's success in the country. Amul has around 20000 Cooperative society linked with 3.6 millions farmers of Gujarat and 7 lakh farmers from other parts of the country. Apart from Amul from Gujarat, most of other dairy cooperatives in the country are depending upon huge government support. They have not been able to sustain themselves in open market dynamics scenario.

There have been huge investments in infrastructure by these cooperatives but capacity utilization is still limited. Karnataka milk federation, the second largest cooperative in the country has almost tripled their milk procurement from 30 lakhs to 90 lakhs LPD (Liters per day) in last one decade. However this was done at the cost of regular milk subsidy given to the member farmers. This disturbed the level playing field in the state. Karnataka is still amongst the state with very poor footprint of the private sector.

Non dairy cooperatives

Sugar and cotton are amongst the leading agriculture societies in the country. These cooperatives also thrive on various quota based schemes and subsidies provided through MSP mechanism in the country. Rural financing and

housing societies are other areas, which have huge financial base, but some of them are also facing the integrity issues. In 2020 the government has brought these cooperative banks under RBI to regulate their affairs in a more stringent manner.

“It is reported that there are more than 8.6 crores depositors in over 1,500 urban and multi-state cooperative banks across the country and that their money, amounting to ₹4.84 lakh crores, in these cooperatives banks will stay safe with this initiative. Bank failures have been an integral part of Indian financial history. It is not for nothing that in 1913, John Maynard Keynes after surveying the state of banking in the country, wrote in Indian Currency and Finance, “In a country so dangerous for banking as India, it should be conducted on the safest possible principles”. (The business line September 17,2020)

Challenges in front of the new ministry of Cooperation

Excessive government controls and needless political interference have already been listed as a major constraint under National Cooperative Policy 2002. It is very difficult to keep the operations of the new ministry without any political bias. All the opposition parties will look at the formation of this ministry as a step towards getting access to, large member base of the societies particularly in the state of Maharashtra and Gujarat, ahead of the polls.

The ministry will have to develop an enabling environment for the cooperative eco system to grow and flourish in near future. The ministry will have to exercise their centralized authority without diluting the inclusive intent of the cooperative societies.

Dairy cooperatives have shown the path to success to the nation through cooperative model. The ministry might benchmark this model to be implemented in all other agro-based sectors. There is a huge possibility for India to become self-sustainable like Milk, in Edible oils and

Pulses also. The same model may be considered as a starting point for the entire agro-based cluster identified under the one district-one product program in the country.

Agricultural Infrastructure Development Fund
The ministry may also play a vital role in directing Agriculture infrastructure fund to ensure the logistics, storage and processing of agro-produce in the country through the cooperative model.

Profits have a somewhat negative connotation in the parlance of the cooperative world. The ministry must first ensure profitability of existing cooperative societies in whatever they do. The member cooperatives may be developed on the lines of entrepreneurs. Their initiatives may be treated like a startup. The fund availability for bridge finance, loans, working capital and risk capital must be planned well and made available to selected societies. All cooperative societies must be trained in finance and marketing.

Challenge of Non profitable value chain

Most of the cooperative societies begin and end their journey within the battery limits of non-profitable part of the value chain. There is always some marketing network available to exploit these cooperative societies. Handlooms and handicrafts based cooperatives are the best cases for such exploitations.

The success of Amul cooperative model in Gujarat is attributed to the relentless efforts of Dr. V Kurien.

Dr. Varghese Kurien was always against the interference of the government and bureaucrats in the functioning of cooperative system (like Amul) as well as Institutions (like NDDB). This will be the biggest challenge in front of the government to keep bureaucracy and farmers at the same level.

At the end I would like to share a famous quote by Dr. Varghese Kurien from his autobiography, I too had a dream, as follows:

“I began to see then that when the government enters business, the citizens of India get cheated. The greatest repercussion of the government entering into business is that instead

of safeguarding people from vested interests, they themselves become the vested interest.”

Sangli Farmers: Milked by Private Players forcing them to scale down

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<https://dairynews7x7.com/sangli-farmers-milked-by-private-players-forcing-them-to-scale-down/>



Arun Jadhav's cowshed is rather big for just one cow and a buffalo. The livestock look forlorn, tied to a pole in their stable. "I have another shed behind this one," says Arun. "The number of sheds I have is equal to the number of animals I have. Soon I may have more sheds than animals."

A sugarcane farmer in Maharashtra's Sangli district, 39-year-old Arun once reared seven cows and four buffaloes in his village, Alsund. "I sold them one by one over the past 15 years," he says. "I have 10 acres of sugarcane fields. Milk production used to be a convenient side business, but it has become a noose around my neck now."

Sangli is in western Maharashtra, a nerve centre of the dairy industry, with over 42 per cent share in the state's total milk production. Almost every farmer here rears cows and buffaloes. Milk is an additional source of income for farmers like Arun. For others it is the mainstay. But dairy farmers are scaling down now – the economics does not add up, they say.

For nearly a decade now, western Maharashtra has seen recurring agitations by dairy farmers against fluctuating milk prices. They have spilled, wasted and given away milk to mark their protest. Ajit Navale, general secretary of Akhil Bharatiya Kisan Sabha, who has led many

of the demonstrations, says that the price of milk was relatively stable when the bulk was procured by cooperatives and the state. He says: "Ever since private players entered the market, the government's role has become less and less effective. The prices rise and fall according to their wishes."

"Private players have profited by controlling the prices. This is what we have been saying about the farm laws as well," adds Navale, referring to the three farm laws introduced by the union government in September 2020. Protests by farmers in the past year led to a repeal of the laws in Parliament on November 29, 2021.

Navale, who is based in Ahmadnagar city, points out that the dairy sector should have flourished under private investment. "There are over 300 brands operating in Maharashtra's milk sector. Ideally, this kind of competition should lead to an increase in milk prices for farmers. But that has not happened," he says. Instead, the dairy farmers have to endure dramatic fluctuations in milk prices, ranging from Rs. 17 per litre to Rs. 32 per litre.

According to [a study](#) by the market research agency Crisil in September 2021, private dairies in Maharashtra procure 123-127 lakh litres per day, while cooperative dairies collect 36-38 lakh litres. The dairy industry was de-licenced after liberalisation in 1991. The Milk and Milk Product Order was introduced in 1992 to regulate the production, processing and distribution of milk and milk products. But in 2002, it was

amended to remove restrictions on milk processing capacity, which pushed up price instability.

Prakash Kutwal, general manager of Urja Milk, a private dairy-products company based in Pune district's Shirur town, explains why private investment has not helped dairy farmers in Maharashtra. "Earlier, those involved in the dairy business focused on pouch packing and the rates remained stable for at least six months or so. This worked well for farmers and consumers." After deregulation, the rates were affected by fluctuations in skimmed milk powder prices in the global dairy market.

Milk powder plants – which supply to manufacturers of milk derivatives – have grown in the Indian market after deregulation. "The rates of companies dealing in milk powder and butter fluctuate every week, which causes the rates of milk to fluctuate every 10 days, making it a gamble," says Kutwal. "The big brands control milk rates. They also have political backing. But nobody is bothered whether farmers are even recovering their production cost."

"A lactating cow produces 11-12 litres of milk per day. After that, it comes down to eight litres," says Mangal, Arun's 65-year-old mother. "The milk is sold at Rs. 24-25 per litre. We need to buy four kilos of cattle-feed every day for the cow. That costs Rs. 22-28 per kilo," she adds. Arun can earn Rs. 250 a day, selling an average of 10 litres of cow milk. "Even if I go with the cheapest cattle-feed, I spend 88 rupees a day. That leaves a profit of about 160. And I am not counting the medicinal costs we incur on cows," he says. "If I worked as an agricultural labourer in somebody's farmland, I would get 300 rupees a day."

Rearing buffaloes is riskier, says Bharat Jadhav, a 28-year-old sugarcane farmer in Alsund. The animals often go through an unproductive phase that lasts 4-5 months. "We have to tend to it nonetheless," he says. "Buffalo milk is sold at 35 rupees per litre. But buffaloes don't give

more than six litres of milk per day." The price fluctuations were making Bharat anxious, so he does not sell milk anymore. "I had four buffaloes. I sold them all at throwaway prices two years ago."

Milk production in Maharashtra increased by 91 per cent from 2001-02 to 2018-19. It was 6,094,000 tonnes in 2001-02, and rose to 11,655,000 tonnes in 2018-19. By comparison, in Gujarat, where milk farmers are relatively better off, milk production grew by 147 per cent between 2001-02 and 2018-19. Unlike Maharashtra, where more than 300 milk-procuring brands operate, the bulk of milk in that state is procured by one brand: Amul.

Industry heads attribute the disorder in Maharashtra's dairy sector to a lack of coordination. Responding to their demand for better organisation, in February 2020, Chief Minister Uddhav Thackeray formed a consultative panel – comprising representatives from the private and cooperative dairies – to advise the government. Kutwal is a member of the panel. "Today, there are three sectors operating in the milk trade: cooperative, state and private," he says. "More than 70 per cent of the milk produced is procured by the private companies. The rest is collected by the cooperatives. The state has a negligible presence. Every time that the rate of milk falls below Rs. 20, the government intervenes temporarily, and announces subsidies to ensure the farmers' don't vote against them." Private powder plants influence milk prices, says Kutwal, who is also the secretary of Milk Producers' and Processors' Welfare Federation, which includes private and cooperative milk traders.

Their experiences with private companies have made western Maharashtra's dairy producers support the farmers' agitation – which began in November 2020 – against laws seeking to liberalise the agriculture sector.

Rahul Galande, 29, a milk farmer who also runs a small cafe called Tik Tok in the town of Vita,

15 kilometres from Alsund, in Khanapur tahsil , points at the pen in my hand and asks, “How much did you buy this for?”

“Rs. 500,” I reply.

“Who decided the cost of this pen?” he asks me.

“The company that manufactured it,” I answer. “If the company can decide how much it wants to charge for the pen it has manufactured, why can’t we decide the cost of milk that we produce with our hard work? Why is a private company deciding the worth of my product?” asks Galande. “Milk is sold at Rs. 25 here. Sometime back [during the Covid-19 lockdown in 2020], it was down to Rs. 17 per litre. Even a bottle of Bisleri goes for Rs. 20. How are we supposed to stay afloat?”

While the milk farmers are trying to make ends meet, agribusiness seems to be flourishing, says Arun. “The cost of cattle-feed continues to increase. Fertilisers, pesticides also keep getting expensive. But the same rule does not apply to milk.”

Milk farmers are struggling because they do not have an assured price, adds Galande. “Why do farmers cultivate sugarcane?” he asks, and answers the question himself. “Because it has an

assured market and has an assured price. We need similar assurance for milk, with government-set support price. That is exactly what the farmers at Delhi stood to lose because of the [farm] laws. Once you let private companies enter without regulation, farmers across the country will face what the dairy farmers in Maharashtra are enduring.”

The government can intervene and stabilise prices of milk for the cooperative sector, says Navale. “But it has no say in what the private players do,” he adds. “And because most of the milk is procured by the private players, the government can do little for the farmers. The brands procuring milk exercise their influence and make sure that the rates don’t go up. They control the market and make astronomical profits.”

Just before the Covid-19 lockdown in March 2020, Navale points out, farmers were selling cow milk at Rs. 29 per litre. “You bought it for 60 rupees in Mumbai,” he tells me. “After the lockdown, the prices plummeted and farmers sold their cow milk for 17 rupees. You, in Mumbai, continued to procure it for 60 rupees. Who exactly is benefiting from this system? Definitely not the farmer.”

Bhoumadeepam aims to reduce methane gas emission in Kerala

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<https://dairynews7x7.com/bhoumadeepam-aims-to-reduce-methane-gas-emission-in-kerala/>



Twenty dairy farmers to be given ₹24,000 each to set up bio-gas plants at Cheruvannur

The Animal Husbandry department is encouraging dairy farmers to set up bio-gas plants in a

bid to reduce methane gas emission, a major contributor to climate change.

A scheme titled Bhoumadeepam was recently launched in Cheruvannur grama panchayat in Kozhikode. It will help farmers use methane as cooking gas.

“Dairy cattle like cows, buffaloes, and farm animals contribute to methane, a major green house gas,” says the Kerala State Action Plan on Climate Change, brought out by the State government in 2014. The plan envisaged encouraging bio-gas plants to utilise the methane gas

produced for energy resource as Methane Farming Project.

Under the scheme, ₹5 lakh is allocated to one grama panchayat in each district as a model panchayat. Cheuruvannur was chosen for the 2021-22 financial year. According to department sources, 20 dairy farmers will be given ₹24,000 each to set up bio-gas plants. They will get technical assistance from the Agency for Non-conventional Energy and Rural Technology (ANERT). The plant will cost ₹48,000. The subsidy amount will be credited to farmers' bank accounts once the plants are set up. As many as

40 kg of cow dung will be used a day to produce cooking gas. The aim is to produce cooking gas equivalent to that is contained in 12 LPG cylinders a year.

"If we calculate the cost of one LPG cylinder as ₹1,000, the farmer is thus able to get an economic benefit of ₹12,000 a year. They will also be able to make use of the scurry as bio-fertilizer.

One of the advantages of the project is that it encourages the use of methane, a green house gas causing climate change, for cooking," the sources said.

Dutch Cos to bring efficiency innovation for Indian agri and dairy

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<https://dairynews7x7.com/dutch-cos-to-bring-efficiency-innovation-for-indian-agri-and-dairy/>



A top diplomat from the Netherlands has informed that a collaboration on technology and research would provide scalability and value for the processing industry in India.

Speaking to BusinessLine, Marten van den Berg, Ambassador of the Netherlands to India, Nepal and Bhutan, stated that the country focuses on the areas of agriculture, health, water management and climate change.

"We think there is a huge potential in Indian agriculture sector and there is a need for innovation to increase yield, address water issues, shortages and value-addition. From new crop varieties, high-quality seeds, to increase yields and overall agricultural production, we see a lot of opportunities to bring in Dutch technologies and companies in this huge sector of India," said the Ambassador.

Agri-Tech

Dutch companies are bringing technologies on potato and vegetables processing to increase farmers' incomes and cut down food losses, also, the seeds from Dutch seed companies adapted to Indian agronomic circumstances are well-equipped to help farmers deal with changing (climatic) conditions. This, in addition to expertise on processing biomass and greenhouse technology from the Netherlands is seen enhancing resilience and productivity of farmers. In the allied sectors such as dairy space, the Netherlands is exploring ways to deploy Dutch technologies to make India's dairy space more productive and marketable. With an export value of nearly USD 6.4 billion (approx Rs 48,500 crore), the Netherlands is among the world's major dairy exporters. It has one of the highest milk yield with 1.3 million tonnes of milk production from about 1.5 million cows. As against this, India has total milch animal population of 125.34 million and has annual milk production of 188 million tonnes as on 2018-19. Dairy farmers use about 60 per cent of the agricultural land in the Netherlands. This is in stark contrast to India, where dairy sector supports

about 70 million rural households – mostly small and marginal or landless farmers. The higher milk yield, according to Berg, is related to better quality cattle-feed – an area of innovation to achieve high productivity. “Also, you need a cold chain to store, treat and transport milk and products in a good condition to sell and export. In the dairy sector we are also looking into possibilities to bring technology innovation and see whether they are applicable also in the Indian context.

We are engaging with the Central ministries in this regard,” said Berg, who is leading a delegation of Dutch Companies for the 10th edition of Agri Asia 2021 trade show in Gandhinagar during December 9-11.

R&D

The Netherlands is further exploring a close collaboration with companies, State and Central governments and R&D organisations as well as the academic institutions. Bringing a drastic change and deploy modern technologies remain a challenge considering the traditional practices of farming, Berg noted, “It is important to realise this context to be successful in implement the changes in agriculture. In India, the share of Indian agriculture to the GDP is small considering the number of people involved in it. So there is a need for innovation, to upscale and bring value in processing. All this with a sustainability dimension,” said Berg.

The participant companies came from diverse areas of horticulture and floriculture to processing, seed production and dairy, bringing unique technology solutions to offer to improve agriculture in Gujarat and make it more resilient.

“We aim to showcase and use technologies from the Netherlands to eventually use the expertise and tech to contribute to productivity, earning capacity and resilience of Indian farmers,” said Amlan Bora, Commissioner (Trade & Investment), Netherlands Business Support Office (NBSO) in Ahmedabad.

World’s second largest exporter of agricultural produce, Netherlands is keen to explore collaborations with Indian agricultural and dairy entrepreneurs and organisations to innovate technologies that increase the yield, address water issues and achieve the sustainability goals.

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“Amul is investing every year around Rs 800-1000 crore”

Monday, 13 December, 2021, 08 : 00 AM [IST]

<http://www.fnbnews.com/Interview/amul-is-investing-every-year-around-rs-8001000-crore-65817>

FnbNewsAmul, India’s largest food brand, has a turnover of Rs 53000 crore.

Formed in 1946, it is a cooperative brand managed by a cooperative body, the Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF), which today is jointly owned by 3.6 million milk producers, and the apex body of 13 district milk unions. The company spurred India's White Revolution, which made India the world's largest producer of milk and milk products. Dr R S Sodhi, managing director, Gujarat Cooperative Milk Marketing Federation, Ltd., Amul, discusses the company’s new plant, expansion plans pan-India, Covid-19, and more, in

a telephonic interview with Manjushree Naik.

Excerpts:

Amul inaugurated Asia's biggest fully automated plant recently. How will it help the company in meeting demand?

Amul keeps expanding its production and processing facilities, as our milk production is increasing every year at the rate of 9 to 10 per cent. Amul is investing every year around Rs 800-1,000 crore in new processing facilities pan-India.

This new plant which has been inaugurated by the Home Minister and Co-operative Minister is a 100 metric tonne power drive facility which is

located at Asia's biggest dairy plant. It is handling more than 53 lakh litre of milk, per day. It also converts the milk into various value-added products like butter, flavoured milk, ice cream and ghee. Due to this plant, we are able to accept more milk from the farmers, specially, during winter.

The company has launched some 50 products, some even during the lockdown. How has been the response?

We have been launching new products every month, 2-2 ½ products or variants every month. During Covid-19, our stress was more on launching new products of various types, especially, for immunity boosting. We have also launched a lot of products for bakery and sweets. We have received tremendous response. We expect in another two years, our company will have 10 per cent turnover contributed by new products.

What new products are on the anvil?

We do have a lot of new products but according to the changing trends, the consumer is shying away from buying loose mithai as sweets. So our main aim is to launch more mithai or sweets all over India at various locations. We are planning on launching various sweets pan-India but the shelf life of sweets is only 45 days, so that means, they have to be produced locally. We are also working on how to enter into the fruit and vegetable segment. We are going to add a lot of new variants in ice creams and flavoured milk.

You have 87 plants with procurement of milk from 13 states. Give details.

We are procuring around 210 lakh litre of milk from Gujarat, and around 40 lakh litre from Rajasthan, Haryana, Punjab, UP, West Bengal, Assam, Madhya Pradesh, Maharashtra and Andhra Pradesh. We are processing around 380 lakh litre per day at our plants, and these plants do manufacture various products but few products which are common among these are fresh pasteurised milk, butter milk and dahi. Further,

butter is manufactured at 9 plants, ice cream at 11-12 plants, cheese at 2 plants, tetra pack milk at 4 places.

How has been the distribution across India?

Which are your strong markets?

We keep on expanding distribution network, at the moment we have around 75 warehousing hubs pan-India, equipped with facilities to store frozen, chilled and ambient products. We have around 10,000 distributors, and 1 million outlets, for our various products. Now we are expanding our distribution in the towns which have 5,000 to 10,000 population by having our distributors there. We believe in developing distribution through traditional and general trade, though, e-commerce and modern trade also brings in good business. All markets are strong. If you look at the North, butter and milk is strong. In the East, milk powder and milk, in Central Gujarat, it is butter, cheese, and ghee. In the South, we have ice cream and beverages. We are slightly weak in the South, which is why we are planning on improvements, as we do not have fresh milk there.

How do you plan to improve your reach?

We have to start more milk procurement from outside the states where we want to increase the company's reach, the way we are increasing our reach in North-East, Bihar, Jharkhand and Andhra Pradesh. Also by establishing more distribution hubs. Vijaywada we have opened distribution hub. And appointing more distributors in semi-rural areas with 5,000-10,000 population..

You plan to increase turnover from Rs 53,000 crore to Rs 1 lakh crore by 2024. What are your plans for the same?

In 2021, our turnover was Rs 53,000 crore. In another 4 to 5 years we want to increase our turnover. It happens because of volume increase and price increase. We expect that our volume increase will be around 10 to 12 per cent, and the price increase will be around 4 per

cent every year. So 15 to 16 per cent growth will give us this turnover.

There are hardly any food recalls in India. What has been your experience?

We never had a recall in any of our products or batches, the reason being, we are extremely stringent in quality checks at all the stages and at every level of production. This begins right at the milk procurement level at the villages, in the transport trucks, while it is being packed, and when it is batched. Besides that, we also take samples from the market, so that we don't land up in such a situation.

The FSSR 2011 is a comprehensive law but gets updated often. What do you feel about the same?

It is true, I think with the time and technology that is available to make both consumer-friendly and bring transparency, FSSAI laws are updated, especially, the labeling requirements. It is beneficial for the farmers as well as the consumers, which is a good thing. Only thing is, we want that sufficient time should be given, so that we have sufficient time to change over because whatever inventory of labels is there, we have to use it. But I think, mutually it is happening. When we present to the FSSAI, they do modify the time duration.

Sarhad Dairy to 'milk' salt pans in Kutch

13 Dec, 2021

<https://timesofindia.indiatimes.com/city/rajkot/sarhad-dairy-to-milk-salt-pans-in-kutch/articleshow/88244274.cms>



RAJKOT: After successfully milking the ship of the desert, sarhad dairy is all set to exploit nature's another treasure – the salt pans of the Rann of Kutch.

The milk union wants to start selling Kutch's salt along with milk. The dairy union will start research to see the viability of selling Kutch's salt under the brand name of Amul after a feasibility study in Kutch and neighbouring Surendranagar district which count for 76 % of India's total salt production.

Gujarat's total salt production stands at 2.20 crore tonnes per annum.

“We are mulling this idea of salt. We want to procure salt, process it and sell it. We will appoint a consultant to find out whether this idea is viable and based on that report, I will put the proposal in GCMMF's board for marketing,” said Sarhad Dairy's chairman Valamji Humbal, who is also vice chairman of the Gujarat Co-operative Milk Marketing Federation (GCMMF) that markets brand Amul.

The dairy union, which is a member of GCMMF, wants to form salt cooperative societies on the lines of village level milk societies that form the backbone of Gujarat's vast dairy sector.

“If it materializes, it can also help agariyas (salt-pan workers) earn more just like our milk producers. We want to get an estimate of investment in machinery and purchasing of land and if all the research indicates that this project is viable, we will kick start the project,” he said.

Simultaneously, the milk union also wants to diversify in juice production. In October 2020, it had appointed a consultant to submit a report

on producing fruit juice and market it under the brand name Amul. The dairy is planning to make kesar mango, pomegranate and date juice.

“For fruit juice, we had a couple of meetings with GCMMF but because of Covid-19 induced

pandemic, the project could not take off. We are trying to eliminate middlemen wherever possible to increase farmers’ income. The juice project should now take off,” he said.

Kerala Takes Steps to Decrease Prices of Cattle Feed

DEC 10, 2021

<https://dairynews7x7.com/kerala-takes-steps-to-decrease-prices-of-cattle-feed/>



The cost of fodder in the cow business has skyrocketed in recent years. Taking this into account the Kerala government has initiated measures to make abundant quantities of cattle feed accessible to dairy farmers at affordable prices as part of its attempts to lower the dairy sector’s input costs.

In conjunction with Milma and other dairy sector authorities, Minister for Animal Husbandry and Dairy Development J Chinchurani stated the government is putting top importance on ensuring a remunerative price for milk producers and easing the burden of periodic increases in cow feed price.

The lack of components to create cattle feed is a major issue for the state. As a result, cow feed prices are skyrocketing. The administration is working on solutions to this problem. The cultivation of feeding grass is one of them. She went on to say that milk cooperative organizations will be encouraged to start growing grass on land available in their communities.

The minister went on to say that Kerala is not only on the edge of milk self-sufficiency but is

also poised to become a major milk-producing state in the country. TRCMPU has set aside one crore to help dairy farmers in Thiruvananthapuram, Kollam, Pathanamthitta, and Alappuzha who have been affected by the floods.

Kerala is not the only state that had to face a problem due to the high prices of cattle feed. In fact due to the essential nature of feeds and forage for cattle productivity. The widening imbalance between supply and demand is cause for concern.

Livestock rearing is an important source of income and a risk-mitigation method for small and marginal farmers in the country’s rain-fed regions. According to the 20th Livestock, Census issued last year, India’s overall livestock population is 535.78 million, up 4.6 per cent from the previous Census in 2012. Cattle, buffalo, Mithun, and Yak make up the 302.79 million bovine population. The availability of feed and fodder influences the growth and development of cattle and they have played a vital role in helping India surpass the United States as the world’s largest milk producer (187.7 million tonnes in 2018-19).

Hence this decision by the Kerala Government to reduce the price of cattle feed is something that might be needed to be followed by the other Indian states sooner or later.

Farm Aura:Dairy Startup Employs Cruelty-Free Dairy Farming Techniques

DEC 10, 2021

<https://dairynews7x7.com/farm-auradairy-startup-employs-cruelty-free-dairy-farming-techniques/>



Architect Radhika Nichani observed firsthand the atrocities animals face on the streets of India while helping at Charlies Animal Rescue Centre (CARE) in Bengaluru. One horrific case of animal cruelty led her to research about animal cruelty cases, and she came across some literature about the myriad ways the industrial complex has exploited animals to develop businesses and test human products during one such deep dive.

Dairy was one of these industries, she realised. Some call it the world's most exploitative commerce, in which animals are treated as money-making machines rather than real beings. In the past, India, on the other hand, took a radically different, more sustainable approach to dairy farming.

"If you study the history of the White Revolution, you'll discover that India was populated solely by desi cows. While these cows produced the highest quality milk, they only yielded six or seven litres at a time, according to Radhika.

When the British came, however, they brought with them an insatiable appetite for dairy products like butter and cheese. However, India-bred cows were unable to match the rising demand, as Radhika observes. So they altered the genetic makeup of cows by modifying just one gene, resulting in a 20-litre increase in milk output every round of milking.

This resulted in widespread artificial breeding, unsustainable, and exploitative methods in In-

dia, which have resulted in not just mistreatment of dairy animals, but also a reduction in the quality of milk provided by cows.

Independent research surveys, as well as international organisations such as PeTA, have uncovered the horrific ways in which dairy animals are abused, such as artificial insemination using filthy, unsanitary equipment and done forcibly, calves being snatched away from their mothers shortly after birth, culling animals if their milk output drops by a single litre, and so on.

Radhika was outraged to learn that one of India's largest businesses, once responsible for the country's economic rebirth, was now exploiting animals, and she determined to take action.

Founded 'Farm Aura'

Radhika started Farm Aura in 2020 with her father, Tarun Nichani, and mother, Shivani Nichani, as a sustainable A2 milk enterprise that rescues desi cows that have been abandoned in favour of jersey/genetically modified cows.

The unique selling point of Farm Aura is that it does not follow demand and only sells what its animals produce.

In fact, if the herd has a new mother cow, she is milked just after the calf has gotten its fill for the day, with the surplus milk going to Farm Aura's clients.

"We are an ethical, genuine, and natural farm – we make sure our calves are well cared for, regardless of whether they are male or female," Radhika adds, adding that the animals are just as important to the company as consumers and sales.

Farm Aura, based in Bengaluru, ships some items across India, but the majority of its fresh products, such as milk, cheese, and cottage cheese, are now supplied to clients in Bengaluru.

International Panel Discussion on Linking Dairy Science to Society

DEC 10, 2021

<https://dairynews7x7.com/international-panel-discussion-on-linking-dairy-science-to-society/>



An international panel discussion titled 'Linking dairy science to society' was organized on 24 November 2021 by Verghese Kurien Centre of Excellence (VKCoE) as part of the ongoing Birth Centenary celebrations of Dr. Verghese Kurien, dubbed 'The Kurien Mahotsav' at IRMA. Conducted in a hybrid mode, the basic objective of the session was to discuss contemporary issues related to dairying in India and make strategic plan to take the dairy industry to a next level. The discussion was graced by many eminent dignitaries of the dairy sector of both national and international repute where about 60 delegates were physically present and many were connected virtually.

Prof. Umakant Dash, Director, Institute of Rural Management Anand initiated the discussion with the welcome address. Like each year, the centre released the Verghese Kurien Centre of Excellence Information Brochure 2021. The discussion was chaired by Shri Meenesh Shah, Chairman, National Dairy Development Board (NDDB). The virtual presenters were Ms. Caroline Emond, Director General, International Dairy Federation, Brussels, Ms. Judith Bryans, Chief Executive of Dairy UK and Dr. Anil K. Srivastava, President, National Academy of Dairy Sciences (India) (NADSI) and member, Agricultural Research Scientist Board (ARSB).



Shri Meenesh Shah, Chairman, National Dairy Development Board (NDDB) in his opening remarks highlighted the advances that the dairy sector has seen over the past few decades. He introduced that Indian dairy is about providing milk and milk products to the consumers in general and children in particular. Shri Shah said dairy science has improved livelihoods of millions of small and marginal dairy farmers through various interventions in milk production and in the field of animal husbandry, agriculture and dairy technology. He called for the augmentation of ration balancing, sex sorted semen, embryo transfer technology, ethno veterinary practices and animal identification. His proposed recommendations were as follows: Science to be brought to the doorstep of dairy farmers and dairy industry, application of science through cross sectional subjects including animal husbandry, agriculture and dairy technology, in an amalgamated manner where necessary, should be encouraged, benefits of circular economy to be recognized and promoted and augmentation of relevant policies to encourage increase in operational efficiencies and reduce environmental impact of dairying activities and welfare of dairy farmers to be the focus of the relevant government policies.

This set the tone perfectly for Ms. Carole Emond, Director General, International Dairy Federation, Brussels who spoke on "Challenges and opportunities in dairy sector". Few points on policies from her presentation includes recognizing the contribution of dairy to the UN

Sustainable Development Goals, promoting the role of dairy in healthy diets and sustainable food systems, supporting research and innovation and promoting the science behind dairy, including the promotion of science to women and girls, maintaining strong support and funding to School Milk Programs, ensuring science-based policies, integrating Codex Alimentarius dairy standards into national regulation and monitoring implementation of the standards, particularly on food safety.



Ms. Judith Bryans, Chief Executive of Dairy UK's presentation on "Contributions of dairy in nutrition and health" highlighted the role that dairy plays in achieving the first and second UN Sustainable Development Goals of no hunger and no poverty. She also highlighted the challenges and opportunities that lie ahead of the dairy sector. Ms. Judith carried forward the discussion by bringing to light the changing global demographics. She brought to attention that people across ages want safe, affordable, and nutritious food and dairy products and primarily milk fulfill all these criteria.

While both the presentations called for increased production of milk, the question, 'how to achieve it while maintaining the GHG emissions targets of COP26?' still remained unanswered. This was answered by Dr. Anil K. Srivastava, President, National Academy of Dairy Sciences (India) (NADSI) and member, Agricultural Research Scientist Board (ARSB) wherein in his presentation "Heading towards carbon neutral dairying", he discussed various techniques that would cut down on the GHG emis-

sions arising from the dairy sector. He suggested that carbon neutral and climate smart dairying is the future and if not taken with care, dairying will negatively impact the environment especially in arid and semi-arid regions.

The insightful presentations were followed by a panel discussion that focused on challenges that the dairy industry faces in the wake of changing consumer preferences towards plant-based substitutes to milk products. Prof. Dr. Rakesh Mohan Joshi, Dean, Indian Institute of Foreign Trade (IIFT), New Delhi, the renowned dairy consultant Dr. JV Parekh, the Editor-in-Chief, Dairy Times magazine and Shri Kuldeep Choudhury, General Manager, Operations, Amul Dairy were amongst the panelists who were virtually joined by Dr. A. K. Singh, Principal Scientist, Head of the department, Dairy Technology Division, ICAR-National Dairy Research Institute, Karnal and Dr. Bharati Kulkarni, Senior Grade Deputy Director, Clinical Division, ICMR-National Institute of Nutrition, Hyderabad. The panel discussion was moderated by Shri Kuldeep Sharma, Founder, Suruchi Consultants.



The panel discussion called for the generic promotion of milk and dairy products communicating the benefits to the consumers and that the dairy industry should come together to fight against challenges posed by plant based products and vegan groups. Inclusion of school children and college students in the FSSAI committee for the future foods was welcomed by the panelists. The closing statement by the moderator called for increasing the legitimacy of the dairy industry and its products because without authenticity there would be no food safety and hence no food security. The vote of thanks was

given by Dr. J. B. Prajapati, Chairperson, Verghese Kurien Centre of Excellence. The programme was well coordinated by the research fellows of Verghese Kurien Centre of Excellence

– Dr. Pankaj Parmar, Shri Ankit Son-takke and Shri Darshan Patel and hosted by Dr. Smruti Smita Mohapatra.

GST Council to consider clarifying GST issue on ice cream parlour

DEC 10, 2021

<https://dairynews7x7.com/gst-council-to-consider-clarifying-gst-issue-on-ice-cream-parlour/>



The GST Council, expected to meet later this month, is likely to take up the issue related with levy mechanism on ice cream parlour. Ice cream companies have urged for clarification on the applicability of GST at the rate of 18 per cent on parlour.

“The matter is expected to be placed before the GST Council. Based on its recommendation, we will issue clarification,” a senior Finance Ministry official told BusinessLine. The GST Council, in its meeting on September 17, made it clear that ice cream parlor sells already manufactured ice-cream and such supply of ice cream by parlors would attract GST at the rate of 18 per cent. Following this, on October 6, the Finance Ministry issued a clarification saying where ice-cream parlours sell already manufactured ice-cream and do not cook/prepare ice-cream for consumption like a restaurant, it is supply of ice cream as goods and not as a service, even if the supply has certain ingredients of service. Accordingly, it is clarified that ice cream sold by a parlour or any similar outlet would attract GST at the rate of 18 per cent.

Another Finance Ministry official admitted that normally taxation on consumption is not levied with retrospective effect. “Usually, when a notification is issued, it comes into effect from date

of publication unless a specific date is mentioned. Here, a clarification has been issued where there is no mention about prospective and retrospective effect. Still, if there is some confusion, that needs to be removed,” he said.

What manufacturers are saying

In a representation, ice cream manufacturers have requested that, “Board (Central Board of Indirect Taxes & Custom) may kindly take steps either to clarify that the GST rate of 18 per cent on supply of ice cream by ice cream parlors would have only prospective effect, and if necessary, to suitably amend relevant notification to apply the rate of 5 per cent GST for the period from July 01, 2017 till the date of the present clarification i.e., October 6, 2021.”

They submitted that the Covid-19 pandemic has already pushed innumerable such persons out of business. “In such a situation, if the ice-cream parlours are coerced into paying the GST at 18 per cent for the past supplies with effect from July 1, 2017, most of them would go bankrupt and would be compelled to close down their businesses as most of such suppliers are small businesses,” the representation said.

People associated with ice cream industry said that GST at the rate of 5 per cent on retail sale was being collected till October 5 and afterwards according to clarification. However, they said that the clarification is giving an impression of applicability of 18 per cent GST from July 1, 2017.

Bengaluru dairy units in abysmal state

10th December 2021 05:54 AM

<https://www.newindianexpress.com/cities/bengaluru/2021/dec/10/bengaluru-dairy-units-in-abysmal-state-2393896.html>



BENGALURU: A study of seven dairy units in Bengaluru has thrown up a grim picture, prompting the researchers to approach the State Pollution Control Board, Bruhat Bengaluru Mahanagara Palike and Animal Welfare Board, among other authorities.

Aarti Bhavana, one of the three researchers of the Ahimsa Fellowship that conducted the study in Bengaluru, told TNIE said the shelters were checked against parameters set for dairies -- like ventilation, presence of dense dung around the shed, legal compliance such as registration by the dairy owner, whether licence has been obtained, and if the dairy has special watertight, non-corrodible containers to store dairy products intended for human consumption. However, gross violations of all these norms were observed in all the dairies, said Aarti, who is also a lawyer. She said these inadequacies were indicative of the overall state of dairies in the city. The study found that in most dairies, the animals were kept confined in close proximity to each other which did not even give them enough space to sit. The ropes used to tie the animals were so short that they were unable to maintain a natural posture. In some cases, these short ropes did not permit the animals to even move their heads to swat away flies. Many cows had enlarged and abnormal udders, indicating mastitis, in apparent violation of Section

11(1)(b) of the Prevention of Cruelty to Animals Act, 1960.

Mastitis is caused by excessive milking due to artificial insemination, which keeps them continuously pregnant and lactating, a condition that is profitable for the dairy but takes a toll on their bodies. Every dairy the team visited had animals who were in pain due to starvation, thirst, overcrowding and other ill-treatment. Aarti said sick animals were not housed separately.

In violation of Rules 7 and 8 of the Bio-Medical Waste Management Rules, 2016, and Section 288 of the Bruhat Bengaluru Mahanagara Palike Act, 2020, the researchers found that bottles and vials — both used and full — were discarded along with syringes in heaps of garbage inside and outside the premises.

Milking was done in an unhygienic manner, with milk being collected in old paint buckets placed on surfaces covered with dung and urine, Aarti added. It's a clear violation of the Food Safety and Standards Act, 2006. In some dairies, the cows' food was found to be infested with flies, or contained plastic. This eventually translates to milk having microplastic content, she said. Similar studies were held by various researchers in Delhi, Maharashtra, Chhattisgarh and Odisha.

Shelters visited

BBMP Cattle Shed, Fraser Town

Sri Thimmaiah Milk Centre, Nagarbhavi Circle

Magadi Road 8th A Cross

Marathahalli, Ashwathnagar

Under Domlur flyover

Gayathri Nagar

Subramanya Nagar

Rajkot dist admin offers 100 acres to GCMMF for milk processing plant

December 10, 2021 2:53:52 am

<https://indianexpress.com/article/cities/rajkot/rajkot-dist-admin-offers-100-acres-to-gcmmf-for-milk-processing-plant-7664986/>



THE DISTRICT Land Valuation Committee (DLVC) of Rajkot Thursday finalised a proposal for allotting 100 acres to the Gujarat Cooperative Milk Marketing Federation (GCMMF) in the Dhandhani village on the eastern outskirts of the city for a proposed dairy plant. The proposal will now be forwarded to the state government for final approval.

The decision comes months after the dairy federation, which markets dairy products under the brand name Amul, turned down a government offer of 70 acres in the Navagam village, terming the land valuation unaffordable.

At its meeting held Thursday, DLVC, headed by Rajkot district collector Arun Mahesh Babu, finalised parcels of land to be allotted to GCMMF and also recommended the per-square-metre price of land to be charged to the dairy major. "The committee recommended the rate of the land and decided to forward the proposal to SLVC (state land valuation committee) for approval. The state government will take the final call on the rate," Babu said.

The district administration has offered land to GCMMF in the revenue jurisdiction of Dhandhani and Gadhka villages for the latter's Rs 500 crore milk processing plant. The proposed plant will have a capacity to process 30

lakh litres milk per day (llpd) and will manufacture all milk-based products of Amul.

The decision of the DLVC to allot land in the Dhandhani village on Rajkot-Bhavnagar state highway comes months after GCMMF turned down the offer of the district administration of 70 acres in Navagam-Anandpar villages on the Rajkot-Ahmedabad highway. "The government offered us land in Anandpar at the rate of Rs 7,000 per square metre. We can't afford to purchase land at such a high rate as, at that rate, the land could have been to the tune of around Rs 400 crore whereas our total budget for the proposed project is around Rs 500 crore. Therefore, we had to say no to that offer," Valamji Humbal, vice-chairman of GCMMF told The Indian Express, adding, "We are happy to learn that the district-level committee has cleared the proposal. But for us, the most important aspect is the rate at which the government offers us the land."

The Chief Minister is the ex-officio chairman of SLVC.

GCMMF is the federation of 18 district cooperative milk producers' unions. It has a capacity to handle 390 lakh litres of milk per day through a chain of 84 milk processing plants spread across the country. However, save one plant in Gandhinagar, the rest of these milk processing plants are owned by member unions. The federation has plans to set up its second plant in Rajkot to cater to dairy farmers of Saurashtra-Kutch regions and the plant will also help save transportation costs for the dairy federation and improve the quality of products, say officers of GCMMF.

Little support for MSP

Dec 09, 2021 05:21 AM (IST)

<https://www.tribuneindia.com/news/comment/little-support-for-msp-348084>



IN the light of the farmers' demand for according a legal sanctity to Minimum Support Price (MSP), a question that is being repeatedly asked is whether any such move will violate the World Trade Organisation (WTO) provisions.

This assumes importance, given the continuous tirade by some of the rich developed countries, led by the US, the EU and Canada, blaming India for breaching the subsidy limits. While India maintains that its MSP operations and the public stockholding for food and livelihood security is WTO compliant, this hasn't deprived some member countries from raking up this contentious issue time and again. With developed countries eyeing a significant proportion of the huge market that is available, given an estimated 80-million plus nutritionally-deficit population in India, which is covered under the National Food Security Act, the issue of restricting public stockholding so as to allow for subsidised imports has always been on the agenda.

Even though the 12th Ministerial Conference, which was scheduled to be held at Geneva from November 30 to December 3, has been postponed after Switzerland imposed travel restriction following the outbreak of Omicron, the new virus variant, the issue was hotly debated in the run-up, leading to the preparation of the final draft for the negotiations. Although it didn't find place in the final draft, some countries had even gone to the extent of vaguely

proposing that procurement of 'traditional staple food crops' be restricted to 15 per cent of the total production. If this had found approval, and given India's dismal ranking at 101 among 116 countries on the Global Hunger Index 2021, the severe implications any such move would have on ensuring food and nutritional security were certainly worrisome.

It was at the Bali WTO Ministerial Conference in 2013 that developing countries had managed to wrest an interim 'Peace Clause' protection that acted as a safeguard for countries like India. While developing countries were expected to cap the subsidy support through administered prices at 10 per cent of the product-specific value, called de minimis support, for the rich countries, the permissible limit (de minimis) allowed is 5 per cent. Since the US, the EU and other members of the Cairns Group (a group of exporting countries) had been continuously raising the issue of India exceeding the outer limits in case of wheat and rice, calling it as trade distorting, the G-33 Group (a group of 47 developing countries) are asking for a permanent solution for the challenge they collectively face on meeting the food, livelihood and nutritional security of the small holders as well as the nutritionally poor.

In 2018-19, taking resort to the clause that protects developing countries from breaching the permissible limit, India had informed the WTO that it had crossed the de minimis ceiling in case of rice. The clause protects developing countries from being drawn into any dispute, even if it exceeds the subsidy ceiling. This is what infuriates developed countries, including the Cairns Group, which is keen that the clause protection is taken away. The other objection by the developed countries is the upheaval subsidised grains cause to the global trade. With the G-33 agreeing not to export any quantity

from the procured food stocks, at least the issue of procurements causing trade distortions has been put to rest.

While in 2018, India and China had put up a joint proposal before the WTO, asking for eliminating the \$160 billion worth of trade distorting subsidies the rich countries provide using the Aggregate Measure of Support (AMS) provisions, more recently, a fresh submission by India, in September 2021, calls for reducing distortions in global agricultural trade. Pointing to how asymmetrical trade rules have tilted the balance against the developing countries, India categorically states: 'Seven members — the EU, Japan, the US, Russian Federation, Switzerland, Canada and Norway — have more than 96 per cent of the Final Bound Aggregate Measure of Support (FBAMS) global entitlement, while the remaining member countries have less than 4 per cent.' Simply put, it means the big players are the biggest violators of the farm subsidy regime, but spare no effort in pointing to the developing countries.

In the US and Canada, the dairy sector alone received more than 50 per cent of the product-specific support over the period. Very cleverly, the product-specific support is now being disbursed among non-product specific support to show how questionable subsidies are being brought down in some important commercial trading activities. For instance, dairy and sugar together had a share of 91 per cent in product-

specific support in the US in 1995. It declined to 37 per cent in 2001, and further dipped to 18 per cent in 2014. But while the share of dairy and sugar declined progressively, the share of cotton and corn increased from 2 per cent in 1995 to 28 per cent in 2001, and then to 40 per cent in 2014. Similarly in the EU, the share of butter, skimmed milk powder and wheat has increased from 17 per cent in 1995 to 78 per cent in 2010.

While the developed countries accuse India of breaching the subsidy limit on rice, wheat, sugar and cotton, a look at their own subsidy support tells you how unfair the trade regime has been. While India's subsidy support for rice now exceeds the permissible limit of 10 per cent, the US gives 82 per cent product-specific support on rice, and the EU provides 66 per cent, a flagrant violation of the WTO norms. Similarly, while the US subsidy support for sugar is 66 per cent, the EU is giving twice as much — 120 per cent. A careful look at the entire range of trade distorting subsidies the rich countries provide shows how massive subsidies in commercially important commodities (and also processed foods) results in lowering the international prices. It's not competitiveness but subsidies that determine the international prices. If 'Peace Clause' is a protection that India needs to build food and nutritional security, a guaranteed MSP is the price shield that Indian farmers need to protect their livelihoods.

Bankruptcy proceedings to begin against Warana Dairy

DEC 9, 2021

<https://dairynews7x7.com/bankruptcy-proceedings-to-begin-against-warana-dairy/>



A cancelled 2011 contract for supplying flavoured milk to 1,500 schools in Mumbai and frequent drought in Maharashtra has brought a 53-year-old co-operative dairy, Warana Dairy and Agro Industries Ltd, to the brink of bankruptcy, according to the company's filings in the National Company Law Tribunal (NCLT).

Punjab National Bank (International) Ltd has taken Warana Dairy, which supplies milk and milk products to Maharashtra and exports them to a few countries, to NCLT over a Rs 40-crore loan default that was due for repayment in March 2020.

The NCLT on September 16 passed an order admitting PNB International's plea to initiate insolvency proceedings against Warana Dairy. The tribunal also appointed Rakesh Bothra as the interim resolution professional (IRP) in the case. The case will now be heard by the NCLT on November 11.

According to the plea of PNB International, Warana has defaulted on a \$5 million loan given to the dairy firm in 2013. The bank said that as

early as 2015, the account of Warana Dairy became a non-performing asset (NPA). In October 2018, the bank recalled its loan to Warana due to non-payment of the outstanding loan. Subsequently in January 2019, the dairy firm approached PNB International with a one-time settlement offer of Rs 10 crore, which the bank rejected.

Now the dairy firm has claimed that the bank had sanctioned and disbursed only Rs 27 crore in 2013 and the company has already paid back Rs 10.39 crore. The company said an "irregular cash flow", "drought" in Maharashtra and "changes" in the rates of milk and milk products by the state government affected its production of milk, leading to a financial crunch at the company.

The company also said it was "facing severe liquidity crunch due to change in the government policy and cancellation of contract of supply of 2 lakh packages of milk to 1,500 schools in Mumbai".

Now the NCLT has directed Warana to not alienate or sell any of its assets. It also said the supply of essential goods or services to Warana Dairy will not be terminated, suspended or interrupted during the resolution process initiated under the Insolvency and Bankruptcy Code.

Haldiram's Nagpur goes live with SIG India for its long shelf-life ethnic beverages

December 9, 2021

<https://www.hotelierindia.com/fb/haldirams-nagpur-goes-live-with-sig-india-for-its-long-shelf-life-ethnic-beverages>



Ethnic snack-food company Haldiram's Nagpur is on a growth track, opening its own manufacturing facility for long shelf-life dairy products. Setting up a massive dairy facility, with an investment of over Rs. 100 Crores, Haldiram's Nagpur is clearly looking to expand its footprint from its existing markets of Maharashtra, Goa and Chhatisgarh.

SIG, a leading systems and solutions provider for aseptic carton packaging, has been chosen by Haldiram's to help expand its business offerings by leveraging SIG's pioneering filling machines for aseptic carton packs. For the first time, Haldiram's Nagpur has invested in its own manufacturing set up for filling products into aseptic carton packs and SIG is supplying them with a high-speed CFA 1224 filling machine for combiblocSlim carton packs from SIG. SIG's filling technology offers excellent flexibility with multiple volume offerings, making it an ideal choice for Haldiram's. Furthermore, SIG's high-speed filling machine, able to fill 24,000 carton packs per hour, provides sufficient capacity for Haldiram's to expand and grow over the next few years.

Commenting on the partnership, Sushil Agarwal, Director at Haldiram's Nagpur said: "SIG offered us state-of-the-art technology with full flexibility of nine volume sizes on one filling machine, all at high speed. This gives us a lot of options to pack a variety of products in a huge number of different packaging formats and sizes. And even more, the elegant, slim carton

packs are very attractive and stand out on the shelf."

Starting from co-packaging its products through contract manufacturers, Haldiram's Nagpur now aims to launch an even wider range of ethnic dairy and non-dairy products, leveraging on its existing retail network and distribution capabilities.

Neeraj Agarwal, Marketing Director at Haldiram's Nagpur, commented: "Our brand Haldiram's is a household name, associated with great quality and fantastic products. With SIG, we know that we will be able to extend this in a big way into the ethnic beverages category. We will be able to introduce beverages that consumers really enjoy, in the right sized packaging that suits different consumption occasions."

The product offerings will include buttermilk under the name Matka Jhatka, sold in 200 ml combiblocSlim carton packs, along with Aam Panna, Jal Jeera, a variety of Lassi products. Many more innovations are now in the pipeline. Vandana Tandan, Country Manager for SIG India, commented: "We are really excited about working with Haldiram's Nagpur. Their ambition to create differentiated products has perfect synergy with SIG's filling system, which allows maximum flexibility. We believe that with Haldiram's, we will introduce some really innovative products and grow together in this exciting category of ethnic beverages."

Haldiram's is also setting up a range of wide-spread franchise networks in several Indian cities to offer everything from sweets and confectionaries to namkeens, juices, and more. The flexibility that SIG offers, along with the ability of its machines to fill products with pieces and bits, like milkshakes with pieces of dry fruits or nuts, juice products with fruit bits and much more, will help ramp up Haldiram's capacities

and offerings, based on the varying needs of Indian consumers.

Karnataka Farmer Lodges Police Complaint Against His Cows for Not Giving Milk

Dec 07, 2021

<https://www.news18.com/news/buzz/karnataka-farmer-lodges-police-complaint-against-his-cows-for-not-giving-milk-4530008.html>

A farmer from Karnataka lodged a complaint with police against his four cows who were not giving milk despite being fed properly. The Deccan Herald reported that Ramaiah from Sidlipura village in Bhadravathi stated in his complaint that he takes four cows to farm fields for grazing every day from 8 am to 11 am and from 4 pm to 6 pm. "But they are not giving milk for the last four days. So, police must convince them to give milk," he said. The police told Deccan Herald that they tried to convince the farmer that such a complaint could not be registered, but he persisted. Meanwhile, the complaint went viral on social media. While this was a story about a complaint against animals, writer Sudha Murthy showed her affection for her pet dog earlier in the day. In the video, Sudha and her sister are seen doing aarti of their dog Gopi on its birthday. Both the sisters are seen dutifully performing the rituals, lovingly caressing the dog and singing a happy birthday song. The heart-melting clip was shown with a lot of admiration and love from the users who remarked that the Murthy family is a

blessing and there is a scarcity of finding new age families and such humble leaders in today's world.

In another instance a few days ago, a goat ran away with government documents in Kanpur. In an unusual incident, a goat that entered the Chaubepur block office premises got hold of a few papers. Seeing this, a staffer at the office gave the goat a chase to retrieve the documents. A video of the incident is going viral in which the staffer is unable to get hold of the goat. In the viral video that was shared on Twitter by popular comedian Rajeev Nigam, a goat can be seen holding a few papers in its mouth. Seeing this, a man – a staff member as per the tweet caption – rushes to chase the goat in order to retrieve the papers. Conscious of the incident being filmed, the man slows down for a bit and the goat scores a lead, making him run to another corner of the office. The 22-second-long video ends before the chase comes to a conclusion and the goat seems to get away with the papers.

J&K Organises 'Vishal Pashudhan Vyapar Mela' To Boost Dairy Farming & Milk Sufficiency

7th December, 2021

<https://www.republicworld.com/india-news/general-news/j-and-k-organises-vishal-pashudhan-vyapar-mela-to-boost-dairy-farming-and-milk-sufficiency.html>



The Department of Animal and Sheep Husbandry held a Vishal Pashudhan Vyapar Mela in Lakanpur in Kathua district to promote the expansion of animal husbandry activities in the Union Territory. The government hopes to attain milk self-sufficiency through this programme.

"This step will help Jammu and Kashmir in a big way to achieve the target of becoming self-sufficient in milk production," he added.

Yasha Mudgal, the Secretary of the Cooperatives Department, was the guest of honour at the event, and Choudhary and Mudgal jointly inaugurated the mela.

"Just like Punjab and other states, this mela is being organised here. Animals that help in dairy farming are here. I hope that via this project, the Union Territory gets sufficient milk production. I am happy that the Jammu and Kashmir government has made such an arrangement," Mohammad Sadiq, a buyer said.

"This move by the government would help in saving time and money for the farmers who

would otherwise have to journey out to neighbouring states to purchase excellent cattle," said KK Khajuria, another local present at the event.

The mela, organised by the Department of Animal and Sheep Husbandry, is the first of its kind, encouraging the sale and acquisition of a variety of cow, buffalo, sheep, and goat varieties.

Vishal Pashudhan Vyapar Mela

In a similar event organised in Jammu and Kashmir in July this year, Choudhary highlighted the government's recent initiatives to achieve self-sufficiency in milk production, saying that the easing out of schemes related to Dairy Production, Animal and Sheep Husbandry received tremendous response, with over Rs. 10 crore rupees in subsidies disbursed to farmers through a variety of schemes in the previous fiscal.

He explained that the goal of implementing hand-holding programmes in Animal and Sheep Husbandry was to make J&K self-sufficient in milk production, as the state currently imports over 25% of its milk from Punjab and Haryana. On July 21, Principal Secretary of Animal & Sheep Husbandry Navin Kumar Choudhary inaugurated the 'Two Day Vishal Pashudhan Vyapar Mela' at Sports Stadium, Hiranagar in Kathua district in the Union Territory of Jammu and Kashmir.

Bankruptcy proceedings to begin against 53-year-old Warana Dairy

December 7, 2021 1:51:05 pm

<https://indianexpress.com/article/cities/mumbai/bankruptcy-warana-dairy-punjab-national-bank-7660423/>



A cancelled 2011 contract for supplying flavoured milk to 1,500 schools in Mumbai and frequent drought in Maharashtra has come to haunt a 53-year-old cooperative dairy, Warana Dairy and Agro Industries Ltd, that is standing at the brink of bankruptcy, according to filings of the company in the National Company Law Tribunal (NCLT). Punjab National Bank (International) Ltd has taken Warana Dairy, which supplies milk and milk products to Maharashtra and also exports it to a few countries, to the National Company Law Tribunal (NCLT) over a default of Rs 40 crore loan that was due for repayment in March 2020. The NCLT on September 16 passed an order admitting PNB International's plea to initiate insolvency proceedings against Warana Dairy. The tribunal also appointed Rakesh Bothra as the interim resolution professional (IRP) in the case. The case will now be heard by the NCLT on November 11.

According to the plea of PNB International, Warana has defaulted on a \$5 million loan given to the dairy firm in 2013. The bank has claimed that as early as 2015, the account of Warana Dairy became a non-performing asset (NPA). In October 2018, the bank recalled its loan to Warana due to non-payment of the outstanding loan. Subsequently, in January 2019, the dairy firm approached PNB International with a one-time settlement offer of Rs 10 crore which was rejected by the bank.

Now the dairy firm has claimed that the bank had sanctioned and disbursed only Rs 27 crore in 2013 and the company has already paid about Rs 10.39 crore back. The company has said an "irregular cash flow", "drought" in Maharashtra and "changes" in the rates of milk and milk products by the state government has affected its production of milk leading to a financial crunch at the company. The dairy company also said it was "facing severe liquidity crunch due to change in the government policy and cancellation of contract of supply of 2 Lakh packages of milk to 1500 schools in Mumbai". Now the NCLT has directed Warana to not alienate or sell any of its assets. It also said the supply of essential goods or services to Warana Dairy will not be terminated or suspended or interrupted during the resolution process initiated under the Insolvency and Bankruptcy Code (IBC).

Amul, Parag, Prabhat and Sonai's Cheese project approved under PLI

DEC 7, 2021

<https://dairynews7x7.com/amul-parag-prabhat-and-sonais-cheese-project-approved-under-pli/>



The food processing ministry on Monday said it has approved 60 applications of investment proposals by packaged food companies, including Amul, ITC, HUL, Britannia Industries, Parle Agro, Tata Consumer Products and Nestle India seeking benefits under the production-linked incentive (PLI) scheme.

In March this year, the Union Cabinet approved a PLI Scheme for the food processing sector, entailing an outlay of Rs 10,900 crore. The scheme will help create 2.5 lakh jobs, boost exports and ensure availability of a wider range of value-added products for consumers.

The ministry had invited expressions of interest (EOI)/ proposals for availing incentives under the PLI scheme for food processing industries with an outlay of Rs 10,900 crore. The last date for submission of proposals was June 24, 2021. "In response to the EOI, the ministry had received a total of 91 applications under Category 1. The approval committee under the chairmanship of the minister, FPI (food processing industries) has accorded approval to 60 applicants under Category 1," the ministry said in a statement posted on its website.

According to the list furnished by the ministry, as many as 12 applications have been approved in ready-to-eat and ready-to-cook segment.

They are Britannia Industries, Haldiram Snacks Pvt Ltd, Gujarat Co-Operative Milk Marketing Federation Ltd (Amul), Parle Biscuits Pvt Ltd, Bikaji Foods International Ltd, ITC Ltd, Haldiram Foods International Pvt Ltd, Bikanervala Foods Pvt Ltd, Balaji Wafers Pvt Ltd, Anmol Industries Ltd, Hindustan Unilever Ltd and Prataap Snacks Ltd.

In fruits and vegetables segment, 18 applications have been approved.

They include Parle Agro Pvt Ltd, Everest Food Products Pvt Ltd, Mtr Foods Private Ltd, McCain Foods India Pvt Ltd, Tasty Bite Eatables Ltd, ITC Ltd, Hindustan Unilever Ltd, Varun Beverages Ltd, Keventer Agro Ltd, Nestle India Ltd, Dabur India Ltd, Tata Consumer Products Ltd, Field-fresh Foods Pvt Ltd, Nilons Enterprises Pvt Ltd, Gujarat Co-Operative Milk Marketing Federation Ltd (Amul), Emami Agrotech Ltd.

In Marine, 11 proposals have been approved, including of Falcon Marine Exports Ltd, Avanti Frozen Foods Pvt Ltd and ITC Ltd.

As many as four proposals have been approved in mozzarella cheese segment — Parag Milk Foods Ltd, Gujarat Co-Operative Milk Marketing Federation Ltd (GCMMF) and Sunfresh Agro Industries Pvt Ltd and Indapur Dairy and Milk Products Ltd.

Parag Milk Foods secures PLI nod for mozzarella cheese

December 06, 2021

<https://www.thehindubusinessline.com/companies/parag-milk-foods-secures-pli-nod-for-mozzarella-cheese/article37862222.ece>

Under the PLI scheme, the maximum permissible amount of investment is ₹71 crore to be spread over the next six years

BSE-Listed Parag Milk Foods Limited, a manufacturer and marketer of dairy-based branded products in India, has received approval under the Government's PLI Scheme to make mozzarella cheese.

The PLI scheme for the food processing industry, to be implemented during 2021-22 to 2026-27 with an outlay of ₹10,900 crore, was approved by the Cabinet on March 31, 2021. The scheme is essentially meant for Indian companies and subsidiaries of MNCs operating in India with minimum sales of food products manufactured in India.

Hyderabad to witness first-ever Vegan Market in India

DEC 3, 2021

<https://dairynews7x7.com/hyderabad-to-witness-first-ever-vegan-market-in-india/>



The first-ever Vegan Market will be hosted in the city at Phoenix Area, Hi-Tech City in Madhapur on Sunday, December 5, 2021.

It will be open from 10 am to 10 pm on Sunday. It is the first of its kind plant-based market to be organised jointly by Alt Mart & Enya. The vegan market aims to encourage cruelty-free, guilt-free consumption among the city dwellers and encourage a more compassionate world that is animal, healthy and planet-friendly.

Alt Mart is founded by Rupa Obulreddigari is a one-stop vegan eCommerce marketplace that services pan Indian markets. Enya is a dairy alternatives brand and cloud kitchen founded by Pranavi Pangnuri and Vishwatej that aims to change the way people perceive veganism.

“People are looking to be happy vegetarians. This unique expo helps them to explore more options”, said Ms Rupa Obulreddigari, one of the organisers, who is also the founder of Alt Mart, a vegan food startup.

About vegan market

Vegan Market is an exhibition of plant-based food, edible items, foods made from plants. It will be the place for vegans who stay away from foods that come from animals, including dairy products and eggs.

The vegan event will have stalls by Beyond Meat – a producer of plant-based meat substitutes, Vijay sweets – who shot into fame for introducing a vegan version of Mysore Pak, vegan first – an online vegan portal in India, and No Beef – a vegan food startup, and many more. Some of the highlights include an open-air ambience, all-day vegan cafe. It will be a pet-friendly event. The pet adoption booth will be hosted by People for Animals. The city's upcoming artists will enthral the visitors with live music all through the day.

Detection of Adulterants in Milk and Milk Products

02 December, 2021 3:56 PM IST

<https://krishijagran.com/featured/detection-of-adulterants-in-milk-and-milk-products/>



The milk is considered as a valuable food for all the human beings including the children and adults. The milk is rich in easily digestible nutrients and provides highly nutrient diet. The world population is increasing day by day which creates an alarming situation for the adequate supply of the milk to each individual along with the optimum quality of the product. It is a highly perishable commodity hence; it should be consumed within a definite span of the time or otherwise should be preserved with a suitable preservative.

In today's world, there are a lot of traders or vendors re there which are indulged in the fraudulent practices of milk sale by addition of various substances termed as "adulterants" with a purpose of making economic gain. The term adulterant refers to the substance which is intentionally added to the lot with an inherent aim of debasing the equality of the final product. The food adulteration refers to the act of intentionally debasing the quality of the food offered for sale either by admixture or substitution of inferior substance or by removal of some ingredient also. It takes into account only intentional not incidental. The adulteration of the milk and milk products is directly proportional to the demand and supply principle which is ultimately connected with the economic principle. The adulteration of the milk is punishable under section 420 of Indian Penal Code. These adulterants will increase the solid content of the milk and thus provide more economic gain

to the sales person. The most common adulterants along with their detection methods are described in this section.

Addition of the water: It is the most common fraudulent practice being followed in Indian context by the milkman. They do so to increase the amount of the product but the quality of the water is always doubtful. The water may carry a lot of the harmful microbial and bacterial contaminants which affects public health. The presence of the water in the milk can be detected by following methods-

Measurement of the specific gravity: The specific gravity of the milk will decrease on the addition of the water content in the milk which proves to be a better indicator of the adulteration of the milk. The specific gravity has been determined by the Quevenne's lactometer. The normal specific gravity of the cow milk is 1.028 – 1.030 while of the buffalo milk is 1.030-1.032. The lower specific gravity indicates addition of the water in the milk.

Nitrate test: The water always carries nitrate ions in its composition while the milk is deficit in it. The nitrate can be detected by the diphenylalanine test. The nitrate ion is present in large amount in polluted water samples. The method consists of the addition of 1ml of the diphenylalanine along with 100 ml of the sulphuric acid which is poured slowly along the walls of the test tube in 5 ml of the milk. Mix all the contents slowly and wait for the color appearance. The blue color at the junction of the sulphuric acid and milk indicates the presence of the nitrate ions in the milk which indicates the adulteration of the milk with the water.

Determination of freezing point: The freezing point of the normal milk gets lower down when water is added in it. Actually, the freezing point of any solution depends upon the presence of the solutes in the milk. The solute concentration

after the addition of the water will decrease which leads to the decrease in the freezing point of the milk. The normal freezing point of the milk is 0.5470C. The freezing point of the milk can be detected with the help of the Hor-tvet cryoscope equipment. The percentage of the added water(W) can be calculated using the following formula,

$W = 100(T-T')/T$, where, T is the average freezing point of the normal milk(0.5300CC) and T' is the true freezing point of the given sample.

Skimming of the milk: The term skimming refers to the removal of the fat content from the milk. The fat is lighter than water, thence the specific gravity of the milk increases. The fat content of the milk can be detected using

Gerber butyrometer method: This method was devised by Gerber et. al. It works on the principle of the action of the sulphuric acid in the milk along with the amyl alcohol followed by centrifugation at 2000 rpm for 5 minutes leading to collection of the fat column at top. The sulphuric acid will liberate the heat which helps in melting of the fat. The amyl alcohol will cause clear demarcation between fat and other contents of the milk. The fat deficiency can be calculated as $100(3.0 F)/3$ where F is the fat% of the milk sample.

Babcock test: It is less costly as compared to above method and more accurate. It depends upon the action of the sulphuric acid on the milk proteins. The heating and centrifugation cause the fat to separate and float as a separate layer on the top of milk column. The procedure has been carried out in Babcock bottle.

Rose-Gottlieb test: In this, the milk sample is treated with the ammonia and ethyl alcohol. The ammonia causes the dissolution of the protein while the ethyl alcohol causes the precipitation of the proteins. The fat is extracted with the diethyl ether and petroleum. This method is mainly used for milk products and as reference method.

Adam's method: This method consists of the spreading the milk on an absorbing paper and then extracting the fat from it by a fat solvent through a process of distillation.

Skimming and watering: In this adulteration method, the fat is removed and sufficient water is added to the milk to make the specific gravity at a normal level. The skimming of the milk has also been done to extract the cream separately and fetching the double profit from it. For determining the above adulteration, we usually employ the calculation of the corrected lactometer reading followed by application of the specific formulae for TS% determination, such as

Richmond %TS: $0.25G+1.2F+0.14$

Babcock : $0.25G+1.2 F$

Fleischman's : $0.25G+1.2F+0.25$

Where, G is corrected lactometer reading and F% is fat percentage.

Addition of thickening agents:

The thickening agents leads to increase in the viscosity of the milk. The various thickening agents are cane sugar, starch, gelatin, calcium carbonate and milk powder etc. to increase the solid content of the milk.

Detection of the Starch: The starch is a homopolysaccharide which is having high specific gravity. It can be detected by addition of the 1.0 ml of the 5% solution of the iodine. If starch is present in the milk sample, the iodine molecules get chelated with starch pockets. It yields blue color complex formation.

Detection of gelatin: The gelatin is added to the milk as a thickener. Take 10 ml milk in a large test tube along with the 10 ml of the mercuric nitrate solution in the same test tube. Shake the test tube well. Add 20ml of the water and shake the mixture and wait for 5 minutes. Then after filter the solution and obtain the opalescent filtrate which indicates the presence of the gelatin. Collect this filtrate in the separate test tube and equal amount of the saturated picric acid solution. Wait for 2 minutes, it yields yellow

precipitate which indicates the appreciable amount of the gelatin.

Detection of the Cane sugar: Take about 15 ml of the milk sample in a sterile clean test tube and add 1ml of the HCl along with 0.1 g of the resorcinol powder in the same test tube. Boil the solution for a few minutes. The presence of the cane sugar is indicated by the development of the red color.

Detection of the sucrose: The presence of the sucrose can be detected by the help of the resorcinol test. It involves the addition of 0.1 g of the resorcinol to the 10ml of the milk. Shake the test tube mixture and wait for some time. The red color of the test tube will show the presence of the sucrose.

Detection of the milk powder: the milk powder has been added to the milk. The milk powder has been added to increase the SNF content of the milk. We start with the 10 ml of the milk in a test tube followed by addition of 1 drop of the formalin in the test tube. Mix it well and incubate the test tubes at 60°C for approximately 10 minutes. The presence of peculiar odor indicates the presence of the milk powder in the test sample. In negative control, there will not be any such odor.

Detection of the Calcium carbonate: Calcium carbonate is a chemical which is mainly used as bleaching agent in the farms and it has a caustic action on live tissues. We proceed for its detection by taking 10 ml of the milk in a test tube followed by addition of 1 ml of the concentrated hydrochloric acid in it. The presence of the calcium carbonate has been indicated by the presence of the effervesces.

Detection of the sodium carbonate(rosalic acid test): It is named as rosalic acid test after the name of the indicator rosalic acid. First of all, take 5 ml of the milk sample in a test tube, then after we have to add 10ml of the alcohol and rosalic acid solution(1:10) and mix it well. The sodium carbonate acts as acidity neutralizers in the solution. The end result of the pink color for

the mixture indicates the presence of the sodium carbonate in the milk sample.

We can also go along with the modified method in which we have to do the manual shaking of the test tube after addition of the rosalic acid in it.

Detection of the urea/synthetic milk: The urea is present in traces in natural milk but it constitutes a major part in the synthetic milk formulations which is above the prescribed level and cause toxicological hazards to the consumers. The detection of the urea can be carried out of any methods-

Using DMAB&TCA method: Take equal amount of milk and 24% TCA(trichloroacetic acid) in a glass stoppered test tube. Mix it and filter it with Whatman no.42 filter paper. Take 3 ml of the filtrate in another test tube and add 3ml of 1.6% dimethylamino-benzaldehyde reagent. The sample positive for urea indicates the distinct yellow color while slight yellow indicates negative.

Using DMAB reagent: Take 1ml of the milk in a test tube. Add 1ml of 1.6%(w/v) DMAB reagent and mix it well. The distinct yellow color indicates the urea addition to the milk sample while slight yellow color is negative for urea test.

Detection of sulfate salts: The presence of the sulfate salts(Zinc sulfate, ammonium sulfate, magnesium sulfate etc.) to raise the SNF of the milk have been carried out using the barium chloride. The reagents include the barium chloride and TCA. Take 10 ml of the milk sample in a test tube of 50 ml capacity. Add 10ml of TCA solution in it. Filter the coagulated milk through Whatman filter paper grade 42. Take 5 ml of the clear filtrate and add few drops of the barium chloride solution. Observe for any visible ppt. in the milk. The positive sample shows the formation of the milky-white precipitates.

Detection of hydrogen peroxide: The hydrogen peroxide is a preservative but as per FSSAI rules, it is not permitted to be added in the milk.

Hence, if it is present in the milk, then, it is said

to be adulterated. The reagents needed for its detection include para-phenylenediamine reagent(2.0%). Take about 2.0 ml of the milk in a test tube and add 2.0ml of the raw milk in a test tube. Add 2 drops of the 2.05 of para-phenylenediamine reagent. Mix it well and observe for blue color for positive samples and white color for pure milk sample.

Detection of detergent in the milk: Take 5 ml of the milk sample and add 0.1ml of bromocresol purple solution (0.5%) in it. Mix the solution.

The violet color of the test tube solution indicates the presence of the detergent in the milk while faint violet indicates the negative result.

Detection of saccharin: The saccharin is a sugar which has sweet taste and it has been added in the flavored milk and milk products mainly. First of all, we have to Curdle the aliquot of the diluted milk sample with acetic acid. Shake it well and filter it. We have to add 2.0ml of the concentrated HCl to the filtrate to acidify the filtrate and extract it with 25ml of the ether and wash it with 3 consecutive layers of the 5ml water. The ether extract is a volatile compound which can be evaporated by putting in the water bath and add 1-2 drops of water, mix well with glass rod and taste a little. The characteristic sweet taste indicates the presence of the saccharin.

Adulteration of Ghee:

Detection of the vegetable oils:

Take a sample of ghee and add trichloro-methyl in it. Mix it well followed by addition of the acetic anhydride and then-after heat the mixture. The melting point of the unadulterated ghee is 114-1150F while that of adulterated ghee is 1170F.

Detection of the hydrogenated oils(sesame oil): For this Baudouin test has been carried out. Take a ghee sample and add 2ml of furfural solution in alcohol and HCl(5ml) in it. The crimson red color (after 5 minutes) indicates the presence of the hydrogenated oil(sesame oil) in the ghee. It is helpful in differentiating between

desi ghee and vanaspati ghee. The vanaspati ghee contains 5% sesame oil. Pure ghee not contains sesame oil.

The detection of the sesame oil , refined soyabean oil, groundnut oil and sunflower oil have been done by HPLC as recommended by FSSAI with the limit of detection as follows-

Cocconut oil – 5%

Refined soyabeen oil- 1%

Groundnut oil – 2%

Sunflower oil – 1%

Detection of the animal fat(mutton/beef):

Take the sample of ghee and add a mixture of alcohol and acetate as reagent and heat the mixture. The slight deposition of the crystals at the bottom of the test tube indicates the presence of the mutton or beef fat in the ghee.

Conclusion:

The adulterants are mostly extraneous materials which have been added to the milk or milk products with an aim to increase the economic gain mainly. These are very harmful for certain age groups mainly the young ones and elder group population. They can be detected with various methods as described above which usually have to be carried out by the FSSAI at regular intervals. The adulterants debase the intrinsic quality of the milk and milk products and hence strict legislations needed to be implement over them.

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IT department detects Rs 400 crore black income after raids on Pune dairy group

Dec 02, 2021

<https://timesofindia.indiatimes.com/city/delhi/it-department-detects-rs-400-crore-black-income-after-raids-on-pune-dairy-group/articleshow/88049402.cms>



NEW DELHI: The income tax department has detected unaccounted income of Rs 400 crore after it raided a Pune-based company engaged in dairy farming and manufacturing of milk products, the CBDT said on Thursday.

The searches were launched on November 24 at thirty premises located in half-a-dozen cities. "The search operation has resulted in the seizure of unaccounted cash and unexplained jewellery of about Rs 2.50 crore while some bank

lockers are yet to be operated," the CBDT said in a statement.

"So far, unaccounted income of more than Rs 400 crore has been detected," it said.

The Central Board of Direct Taxes (CBDT) frames policy for the tax department. "Several incriminating documents and evidences of tax evasion have been found and seized. The preliminary analysis of these evidence clearly shows evasion of taxable income by adopting various malpractices such as claim of bogus purchases, unaccounted cash sales, cash loan transactions and their repayment, unexplained cash credits," the CBDT said.

"Instances of incorrect claim of loss on account of sale or death of livestock, etc. have also been noticed," it claimed.

The group, the statement alleged, has not maintained proper and separate books of account for claiming specific deduction from its taxable income.

The Indian Dairy Sector is Transforming with Tech-innovation

Thursday, 02 December, 2021, 12 : 00 PM [IST]

<http://www.fnbnews.com/Top-News/the-indian-dairy-sector-is-transforming-with-techinnovation-65751>

India is the world's foremost milk producer, accounting for one-fifth of global milk production. The Indian dairy industry has benefited greatly in recent years from technologi-

cally driven products, services, and solutions. Innovative technologies are assisting the dairy industry in running their businesses more efficiently.

Significant technological advancements have occurred in the Indian dairy industry in recent years. Aside from technological advancements to improve farming methods and the organisational supply chain, big data is another area in which Indian businesses are investing. It is critical for the dairy industry to stay on top of trends and connect to the changing consumer wants and needs.

The dairy industry in India is largely unorganised, resulting in inconsistent milk quality and composition. Due to a lack of technology in this sector, many small farmers have high wastage and inconsistent quality and quantity of milk because they lack granular, actionable data to improve their operations.

The ICT industry is playing an important role in transforming India's largely unorganized dairy sector by developing automated tools that use the Internet of Things (IoT) and advanced analytics to improve milk production and quality for the country's small dairy farmers.

The dairy industry's IoT offerings span the entire value chain, from milk production to payment. The supply chain in the Indian dairy industry is quite complex due to its reliance on a variety of factors such as storage temperature, cold chain availability, weather, perishability/shelf life, first and last-mile distance, packaging, and so on. The fact that the Indian dairy industry is unorganized and fragmented exacerbates supply chain issues.

However, there are a number of technological innovations taking place in India's dairy supply chain. Cold chain technology is expected to advance rapidly in the supply chain. A growing number of dairy manufacturers, suppliers, and other stakeholders are utilizing blockchain technology to provide customers with real-time data about their products.

This is accomplished by including a QR code on the packaging that customers can scan with their mobile devices to obtain information about the origin of the milk, how and where it

was collected and packed, how old it is, what type of transportation and cold milk chain facilities were used, and so on.

For example, the Kerala Government in India is utilising blockchain technology to streamline the purchase and distribution of milk, fish, and vegetables throughout the state. A dairy farm must ensure that all its operations run smoothly, from accounting, finance, and labour management to livestock and supply chain management.

Farmers can use a wearable sensor to track a cow's health and yield and measure important parameters like milk quantity. Farmers can use this data to get immediate feedback, which they can then compare to their peers to improve productivity and income. Cows have traditionally been milked manually. This is not only a time-consuming activity, but it also has an operating cost, which raises the price of milk.

Robotic milking machines help dairy farmers to eliminate the need for physical labour, maintain a sanitary milking process, milk cows at any time of the day rather than on a set schedule, and increase milk production.

The robotic milking machines have arms or cups with sensors that can be attached to cows' teats individually. The sensors can detect whether the cow or one of its teats is ready for milking. Once the milking process begins, the machines can detect impurities, color, and milk quality. If the milk cannot be consumed by humans, it is diverted to a separate container. When the task is completed, the machines can also clean and sanitize the teats automatically.

Cattle feed requirements are determined by the health of the animals as well as the weather. A sick or pregnant cow, for example, might require extra nutrients. When the weather is hot and humid, cattle require more glucose in their feed.

A variety of feed technologies create tailored feed additives, supplements, premixes, and base mixes to ensure maximum milk production

throughout the year. For example, the National Dairy Development Board (NDDB), has developed bypass protein technology to provide specifically processed protein supplements that the cattle can consume to increase milk yield and quality.

There are digital feed monitoring solutions that can help farmers detect feed quality, manage feed inventories, and determine their cattle's feeding patterns. Farmers can, in fact, use a feed monitoring tool to create a personalized diet for each cow based on their body weight, milk quality, and output, improving fertility and productivity.

Larger dairy organizations are also increasingly reliant on technology. Amul, the world's largest dairy federation based in Gujarat, implemented advanced automation to reduce milk waste and support its rapid growth.

The organisation's new control and automation systems ensured the continuous processing of more than a billion litres of milk. Amul's increasing output provided an opportunity for the cooperative's three million milk producers to increase their own output and meet rising dairy product demand.

Amul Dairy is the first cooperative in India to use a digital tracking and monitoring system for artificial insemination processes. The technology sends quick and timely alerts to cattle owners and the cooperative via mobile phone regarding artificial insemination (AI), of the animal. The member milk producer must call the Amul call centre to register his animal for AI. A milk society-appointed artificial insemination technician and the milk producer receive a message, and the chain of events begins. The technician visits the animal, and once the artificial insemination is finished, all the information is updated on the mobile, which sends a message to the Amul call centre and the milk producer. The digital system notifies the animal of its pregnancy diagnosis, and after nine months, the information about the calving, i.e., the calf's

sex, is registered in the mobile application along with its date of birth. The system also keeps track of the newborns' deworming and vaccination schedules. Transparent information, as well as its analysis can be used to make accurate decisions and help the animal husbandry industry thrive because of digitalisation.

Consumer preference for a healthy lifestyle has shifted the dairy industry's fortunes. As a result, players in the dairy foods market have been forced to innovate in their offerings significantly. One of the primary goals of the dairy industry is to provide people with sustainable nutrition (healthy food), that is produced in an environment-friendly manner.

Moreover, there is rising consumer demand for transparency in the dairy industry. Using technological platforms like sensors, data analytics, and digital technology at unprecedented levels enables dairy companies to make better decisions. Companies are coming up with new and innovative ways to attract customers.

Significant technological advancements have occurred in the Indian dairy industry in recent years. As the world's biggest milk producer, India is an important player in the dairy industry, with high growth potential. Despite continued industry challenges, there is an increasing appetite and demand for dairy products. Farm management software has aided in the automation and digitisation of end-to-end production and operations activities. Providing a comprehensive view of all farm activities, managing records, generating reports, and detecting inefficiencies make a lot of sense for industry start-ups to form strategic alliances with large players to create more value for small farmers.

Such collaborations go beyond equity investments to provide deeper domain expertise, flexibility, and access to real-time operational technologies. Through such agreements, start-ups will gain access to cutting-edge technologies from larger partners, such as artificial intelli-

gence-powered operations management solutions, allowing them to scale more quickly. Partnerships between start-ups and established companies are critical for accelerating innovation in this sector. By providing better data and

faster paths to profitability to India's milk producers, the country will be able to maintain its position as the world's largest dairy producer.

Global News

Dairy exporter Fonterra to invest \$2.7 bln to grow and cut emissions

DEC 15, 2021

<https://dairynews7x7.com/dairy-exporter-fonterra-to-invest-2-7-bln-to-grow-and-cut-emissions/>



Fonterra Co-Operative Group Ltd, the world's biggest dairy exporter, said on Monday it would invest about NZ\$4 billion (\$2.72 billion) by 2030 to move milk into higher value products, pursue growth, and reduce emissions.

The New Zealand-based firm expects to return NZ\$1 billion to investors over the next decade on the back of asset sales and an expected uptick in earnings, its chairman and chief executive said at an annual meeting.

Fonterra, which owns the Anchor, De Winkel and Mammoth brands, also aims to achieve net zero carbon status by 2050.

The roadmap comes on the heels of the company getting approval from its 10,000 farmer shareholders to implement a new capital structure last week.

The dairy firm has seen strong demand for its products amid constrained global supply and expects demand to remain elevated in the short to medium term. It is also considering an initial public offer of its Australian business, which could return about \$700 million to shareholders by 2024.

Fonterra said it expects to steadily increase dividends to around 40 New Zealand cents a share by 2030. It paid 15 New Zealand cents last year. (\$1 = 1.4706 New Zealand dollars)

Chocolate Milk Market to Witness Huge Growth by 2026

DEC 13, 2021

<https://dairynews7x7.com/chocolate-milk-market-to-witness-huge-growth-by-2026/>

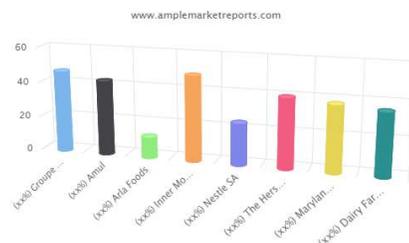


Chocolate milk market slated to expand by 2026 and Groupe Danone, Amul, Arla Foods are likely to take the lead.

A new statistical surveying study titled Chocolate Milk Market investigates a few critical features identified with Chocolate Milk Market covering industry condition, division examination, and focused scene. Down to earth ideas of the market are referenced in a straightforward and unassuming way in this report.

A far-reaching and exhaustive essential investigation report features various actualities, for example, improvement factors, business upgrade systems, measurable development, monetary benefit or misfortune to support peruses and customers to comprehend the market on a global scale.

COVID 19 Outbreak Global Chocolate Milk Industry Share (%) By Players



The report presents the market competitive landscape and consistent in-depth analysis of the major vendor/key players in the market along with the impact of economic slowdown due to COVID.

This research report on Chocolate Milk Market entails an exhaustive analysis of this business space, along with a succinct overview of its various market segments. The study sums up the market scenario offering a basic overview of the Chocolate Milk Market with respect to its present position and the industry size, based on revenue and volume. The research also highlights important insights pertaining to the regional ambit of the market as well as the key organizations with an authoritative status in the Chocolate Milk Market.

The Major key players profiled in this report include: Groupe Danone, Amul, Arla Foods, Inner Mongolia Yili Industrial Group Co., Nestle SA, The Hershey Company, Maryland and Virginia Milk Producers Cooperative Association Inc., Dairy Farmers of America Inc., Royal FrieslandCampina, Saputo Inc., Dean Foods
Chocolate Milk Market can be segmented into Product Types as Cows Milk, Goats Milk, Soy Milk, Other Types

Chocolate Milk Market can be segmented into Applications as Supermarket/ Hypermarkets, Convenience Stores, Other Distribution Channels

PFA Disposed Of 1400-liter Adulterated Milk

13th December 2021

<https://www.urdupoint.com/en/pakistan/pfa-disposed-of-1400-liter-adulterated-milk-1425434.html>

Dairy Safety team on Monday disposed of adulterated milk in the urban areas of the city.

According to the PFA spokesman, PFA teams launched a crackdown against adulterated milk and checked the quality of the milk at different shops in the city.

The PFA team found eight shopkeepers involved in the sale of adulterated milk who used various chemicals to thicken it.

The PFA team imposed a fine of Rs 48,000 and also disposed of 1400 litres of adulterated milk. The DG PFA Rafaqat Ali Naswana said that crackdown against the dairy shops would continue without any discrimination.

Dairy Cooperative Steps Up to Help with America's Food Insecurity Problem

December 13, 2021

<https://www.dairyherd.com/news/business/dairy-cooperative-steps-help-americas-food-insecurity-problem>



The statistics are alarming—according to Feeding America, 1 in 7 Americans struggle with hunger. Food insecurity exists in every county in America and before COVID-19 more than 37 million people, including 11+ million children, lived in food insecure households. Those statistics have increased, and it is now estimated 42 million people, including 13 million children, face food insecurity. Milk is one of the most requested yet least donated items at food banks. This is largely because the regional food pantries and shelters, which are served by food banks, often lack the necessary refrigeration capacity to store fresh milk. In fact, according to Feeding America, people who get assistance from food pantries typically receive the equivalent of less than one gallon of milk per person a year.

Starting this month, 17 regional dairy brands owned by Dairy Farmers of America (DFA) are working to help fill that real milk need at food pantries across the country with the donation of more than 2 million shelf-stable “Giving Cow” milks.

“Giving Cow”

“Giving Cow” milk offers a shelf-stable solution to food pantries that are faced with a shortage of refrigeration space. While typically fresh milk has a shelf life of approximately 20 days after processing, the single-serve, 8-ounce “Giving Cow” packs of ultra-high temperature (UHT),

pasteurized milk have a shelf life of up to 12 months. They have been specifically designed for food pantries and kids backpack programs to fight hunger and will not be sold in stores. “When we learned that millions of kids are missing out on nutrient-rich milk, which is a childhood essential, we knew that we had to try and be a part of the solution,” says Sharon Springborn, senior director of brand marketing at DFA Dairy Brands. “The Giving Cow packs provide valuable nutrition and are shelf-stable, so they don’t require cold storage, which we know can sometimes be limited at smaller food pantries and shelters.”

To help families struggling with food insecurity, DFA has donated 30 refrigerators to local food pantries across the U.S. and donated the equivalent of more than 26.4 million servings of milk since the beginning of the pandemic in 2020. Earlier this fall, Charles Krause who milks 300 cows near Buffalo Prairie, Minn., participated in a ribbon-cutting event with a new grocery store where DFA donated a pallet of milk. “I made sure that those in attendance knew that donation came straight from farmers like myself,” he notes.

Krause is proud of the commitment from the dairy industry and from his cooperative on tackling food insecurity. “Our calling from God is to be servants of the land and to the animals,” he says. “And really to help take care of our fellow neighbors.”

Commitment by the U.S. Dairy Industry
The cooperative spirit and the desire to serve others certainly run deep within the dairy community. Year-to-date, more than 2.2 billion servings of milk, cheese and yogurt have been distributed through the Feeding America network. That all translates to 664 million pounds of dairy distributed to families in need.

Dairy farms, cooperatives and processors, along with their employees and families, actively contribute to their local communities through volunteering, sponsorship of local events, charitable giving and product donations.

In 2020, the dairy community escalated efforts to support those most impacted by the COVID-19 pandemic. Meeting the increased need for reliable, nutritious food was a top priority, along with providing local support to first responders, small local businesses and others in need. Dairy farmers and companies stepped up, taking on challenges ranging in scope from community to nationwide, doing what they could within their respective ranges of control.

The following are just a few examples:

When COVID-19 struck, Chobani mobilized nearly 40 nationwide yogurt deliveries, donating 6.5 million cups to Feeding America food banks.

Dairy Farmers of America (DFA) created the Farmers Feeding Families Fund to meet the increased need of getting nutritious dairy to food banks, especially in rural areas. Several DFA partners contributed to this fund, which, when added to donated products from DFA plants, provided the equivalent of over 16 million servings of dairy to food banks around the country in 2020.

Michigan Milk Producers Association joined forces with Kroger's Michigan Dairy plant to donate approximately 900 pounds of milk per day to the Food Bank Council of Michigan throughout 2020.

United Dairymen of Arizona donated nearly \$6,000 to help a local food bank secure a new walk-in cooler to provide more storage for perishable items like milk and dairy foods.

In the 2020 U.S. Dairy Sustainability Annual Report, Jackie Klippenstein, senior vice president of government, industry and community relations for DFA and also the co-chair of the Food Security Task Force for the Innovation Center for U.S. Dairy stated, "In partnership with the

nation's food banks, the dairy community tackled sourcing/ distribution challenges and developed innovative solutions to meet the unprecedented demand for dairy during the COVID-19 pandemic."

As a direct result of the spike in food insecurity due to the pandemic, the Innovation Center for U.S. Dairy formed the Food Security Task Force to reaffirm dairy's commitment to addressing hunger. Bringing together representatives from leading dairy companies, retailers and nonprofits, the task force will pursue multiple pathways to enable increased and reliable access to nutritious dairy products for Americans facing food insecurity. Key strategies include:

- Optimizing the charitable food system to better process and distribute perishable dairy products
- Developing solutions that empower those facing food insecurity
- Leveraging the power of partnerships to address infrastructure and transportation challenges

How to Get Started to Help out?

One case study that identified the need for milk was with the Northern Illinois Food Bank (NIFB), which serves more than 71,000 people a week in 13 counties in northern Illinois. A processor was asked to provide a consistent supply of fresh milk to food bank agencies, and this resulted in a negotiated and mutually agreeable price for weekly deliveries of milk to food bank agencies. The processor kept control of milk to protect cold chain and stored milk in agency refrigerators and the food bank paid the invoices and provided milk to their clients. This all resulted in the food bank purchasing an average of 300,000 gallons of milk per year from the processor.

The dairy checkoff identified additional examples of business models to increase access to dairy in food banks. These examples can be found through at Dairy Nourishes America.

For more information on how you can get started, contact DairyNourishesAmerica@dairy.org. They will connect you with Feeding America and the food banks in your area to find solutions that work for you and the food banks.

They will connect you with Feeding America and the food banks in your area to find the solutions that work for you and the food banks.

Hunger in America

The statistics share that there is no cookie-cutter formula illustrating those who are at a greater risk of facing hunger in America. 20% of Feeding America households include someone who has served or is currently serving in the U.S. military.

5.5 million (7.7%) seniors in the U.S. are food insecure.

One-third of households with an adult unable to work due to disability are food insecure.

Adults with mental health conditions are almost 5 times more likely to live in a food-insecure household as compared to adults without mental health conditions.

While America's dairy farmers are dedicated to taking good care of their cattle and land and providing a wholesome product for consumers, they are equally committed to being part of the solution to help fight food insecurity issues that are facing millions of Americans.

B.C. dairy industry faces possible exodus of farmers as costs pile up due to floods, heat waves

Dec 10, 2021

<https://www.cbc.ca/news/canada/british-columbia/dairy-industry-hurting-1.6280862>



As farmers clean up following storms and consequent flooding in southern British Columbia, an industry official and operator say some will be forced to leave the industry as costs pile up.

Heavy rain from a series of "atmospheric rivers" in mid-November forced thousands from their homes and left at least four people dead.

Gary Baars, who owns a dairy farm in the Sumas area of Abbotsford, B.C., said he decided to get his cows off his property early after a cousin called about his own flooding experience.

At the time, his property was dry and Baars said people driving by laughed at his pre-emptive measure.

That laughter soon turned into requests for help, with Baars saying he was fielding up to 100 calls an hour from farmers trying to save their livestock as water levels rose.

All but one of his cows survived the eventual flooding.

Baars said other farmers were already facing a tough future as many had little feed for their animals due to B.C.'s record-breaking heat waves in the summer.

That, combined with the flooding and inflation, has reduced profit margins, Baars said.

"Hay prices are high everywhere," he said. "I kept thinking it was a bit of a bubble but between inflation, increased fertilizer and fuel prices and a lack of supply, there's going to be a serious feed shortage."

Baars said many in the dairy industry have a lot of debt and this past year has been tough on farmers.

"I could definitely see some people saying, 'You know what, I'm equity rich and cash poor and this is a good time to get out of this racket,'" he said.

Agriculture Minister Lana Popham has said 628,000 chickens, 420 dairy cattle and roughly 12,000 hogs died in the Sumas Prairie after historic flooding left some properties 2½ metres under water.

More than 6,000 dairy cows were transported from affected farms to others safe from flooding.

Sarah Sache, vice-chair of the B.C. Dairy Association, said Baars' concern is one her group is monitoring.

"It's going to be a turning point for some farms if they continue in the industry," she said.

It will likely depend on what stage of their career farmers are in to determine whether they continue, Sache said.

Finding appropriate feed for livestock will also have a large impact on farmers' livelihoods, she said.

She noted that farmers on the Sumas Prairie had low stores of feed and many of their supplies were damaged in the flooding.

"Sourcing feed of the quality those farmers would've provided and finding sources of that will be hard," she said. "The feed issue is going to be a big challenge across the industry."

Later Friday, Popham and her federal counterpart are expected to tour a poultry farm that was flooded and to address recovery and rebuilding efforts.

Global dairy markets “teetering on the edge” – Rabobank

DEC 10, 2021

<https://dairynews7x7.com/global-dairy-markets-teetering-on-the-edge-rabobank/>



Global dairy markets are “teetering” at low milk production levels not seen since 2014, Rabobank says in its just-released Q4 Global Dairy Quarterly report.

The agribusiness banking specialist says weather-related issues have decimated peak milk production in New Zealand and Australia, while supply growth has also been stymied in the US and Europe by squeezed profit margins for producers.

This has resulted in a year-on-year global milk production deficit that is too deep to be offset by favourable milk production gains seen in South America, it says.

The report says – after nine consecutive quarterly increases – combined global milk supply growth in the major dairy-exporting regions halted in quarter three this year and will dip into negative territory in quarter four.

Report co-author, Rabobank senior dairy analyst Michael Harvey said combined quarter four milk production in the big seven dairy exporting regions – New Zealand, Brazil, Argentina, Uruguay, EU, US and Australia – is expected to decline by 0.3 per cent compared with quarter four last year. This will be the first quarterly year-on-year decrease since 2019.

The report said farmgate milk prices have followed commodity prices higher worldwide, with more potential upside still to come in some regions. Still, rising costs for inputs, labour shortages, unfavourable weather and questionable feed quality will limit the production response by producers, it said.

Global dairy exports have slowed in response to logistic disruptions, rising transportation costs, and elevated commodity prices.

“Global dairy exports based on product volume ran seven per cent ahead of the prior year during the first half of 2021, but slowed to one per cent in July and August,” the report said.

Chinese demand

Mr Harvey said a slowdown in demand for dairy inputs from China is expected and is needed to cool global prices in the face of limited supply-side increases.

“Chinese buyers are torn between the bullish sentiment outside China and the current weak fundamentals within China to decide whether, when, and at what price levels they should return to the market,” he said.

Inflation pressures

Despite rising inflationary pressures, consumers have yet to face “sticker shock” (where higher prices become a deterrent) for dairy products in most countries, the Rabobank report said, and this is supporting demand. That would not be the case in 2022, it said, as higher commodity prices from the second half of 2021 are passed through to consumers.

In addition, Mr Harvey said, new variants of Covid-19, inflation, labour and logistic challenges, along with others weigh on the global economic recovery with the potential for global dairy markets to “teeter or totter”.

NZ market impact

A sluggish spring milk production peak in New Zealand – the world’s largest dairy exporter – also contributed to a global supply slow down. Mr Harvey said New Zealand milk production has only recently started to benefit from more sunshine and warmth for much of the country. “Unfortunately, the change to more favourable weather was too late for the peak milk month of October, when collections dropped by 3.3 per cent year on year. There have now been

three consecutive months of milk supply slipping backward against 2020 since August 2021,” he said.

“Rabobank’s New Zealand milk production forecast for the entire 2021/22 season is -1 per cent year-on-year. In a high milk-price environment and depending on cow condition, it is possible that there will be a late run to recover some of the lost production so far. But our base case assumes the weaker peak will be hard to recoup across the season – especially given lingering challenges to milk production in parts of Canterbury and in addition to high comparables to match from February onwards,” he said.

For Australia

For Australia, the Dairy Quarterly report said, many dairy farms had been dealing with a wet spring – particularly in Victoria and Tasmania. October – peak dairy production in Australia – saw output down 2.1 per cent below last year. This means season-to-date production is down 2.9 per cent, Mr Harvey said.

Rabobank has lowered its milk production forecast, to -1.8 per cent for the 2021/22 season, back to 8.68 billion litres.

Mr Harvey said dairy companies in Australia’s southern export region are upwardly adjusting their initial (June) announced farmgate milk prices.

“Fonterra Australia and Saputo Dairy Australia both lifted prices to AUD 7.05/kgMS or more. There is potential for further increases as dairy exporters benefit from higher commodity prices, particularly skim milk powder. But there are lingering headwinds for local dairy exporters given the weaker-than-expected spring flush and ongoing supply chain bottlenecks and disruptions,” he said.

Rabobank’s revised farmgate milk modelled price for 2021/22 stands at AUD 7.75/kgMS, underpinned by rising commodity prices and a weaker currency.

“Australian dairy farmers continue to enjoy good margins,” Mr Harvey said “There are,

though, production and margin risks beyond the weather, which will remain into the new year. Input costs have spiked for fertiliser and herbicide, with supply risks lurking in the next few months.”

Mr Harvey said high water allocations and healthy soil moisture profiles for irrigated dairy farmers in the southern Murray-Darling Basin will provide good prospects for summer feed crops.

“Rabobank also forecasts another large Australian winter grain crop for 2021/22. This will be welcome news for feed purchases – but noting global prices are supporting local prices,” he said.

The report says Australia’s food market is once again on the road to recovery.

“The Australian economy will grow in 2022, but consumers will face rising costs of living and food inflation including in the dairy aisle,” Mr Harvey said.

Australian dairy exports have remained buoyant through the nine months of the year, according to the Dairy Quarterly. Export volumes are higher across all the major commodities. Liquid milk exports have been strong, underpinned by Chinese demand with volumes 25 per cent higher. Exports of skim milk powder and butter have also performed well.

Embracing Change: How the Magic of Cheese Helped Revive a Missouri Dairy

December 10, 2021

<https://www.dairyherd.com/news/business/embracing-change-how-magic-cheese-helped-revive-missouri-dairy>

The Hemme Brothers in Sweet Spring, Mo. were faced with a dilemma. Either adapt to change, grow or become another statistic in dairy farms forced to call it quits. With four brothers and their father determined to continue to farm, what the family did to reinvent their farm has paid off with success, as well as secured their future.

“Our family started this operation back in 1996,” says Nathan Hemme, one of the brothers of the Hemme Brothers Creamery. “My mom and dad started milking cows then, and as each of us brothers started graduating from college, each one came back and we kept either adding cows or we added this creamery enterprise.”

The Staying Power of Cheese

The family turned to cheese as their farm’s bread and butter. And today, they’re the only dairy left in Saline County, Mo., as cheese helped the four brothers, along with their father, remain dairymen.

“In 2011, we started thinking, ‘How are we going to be more sustainable in the future?’ And

we didn't know if that was going to be milking more cows or making an artisan product and adding a niche market to our business,” he says. “And so, we started researching ways to make cheese.”

The research wasn’t done on the web or by reading a book. Instead, the family knew they had to not only learn from the best, but also see it first-hand. So, Nathan actually traveled to Wisconsin and immersed himself in the magic of cheesemaking.

“When we decided to pull the trigger in 2015 to start making cheese, I took a short course up at the University of Wisconsin. And then our other biggest resource was hiring our chief consultant.”

The process to learn the ins and outs of making cheese took several. And then once the brothers decided to dive into the cheesemaking business, they launched Hemme Brothers Creamery, launching into the business with cheddar cheese.

“We decided to start making cheddar because we can take this fluid milk, condense it down

into about 10% of the weight that it was. So, the logistics worked out really well for us,” says Nathan.

The Magic of Cheese

The transition didn’t just work out well. The decision to start making and selling artisan cheese exploded the demand for the products they produce.

“We would give credit to the high demand of our cheese due to its quality,” he says. “It also has a good story behind it. But the story only sells cheese the first time, the quality sells of the second, third and fourth time.”

It’s the quality piece of Hemme Brothers cheese today that has become the key ingredient to their success.

“The magic of the cheese is the quality and you can’t have quality unless you choose quality milk. And maybe that’s kind of a simple explanation of why our cheese tastes so good, but it’s the truth,” he says.

The quality comes through in the taste. And while the only way to truly describe it is to try their signature cheese, an experience that Nathan says boasts various flavors that capture the taste buds of consumers.

“It’s got a little bit of a fruity flavor to it, and nutty. And it’s a nice sharp cheddar,” he explains.

The quality of their dairy isn’t just in how the milk is processed, but how they raise their feed and their cows. Regenerative agriculture practices are also something the farm is tapping into, and efforts that are helping the Hemme Brothers secure their future in a sustainable way.

“It’s important that we do quality work from the time my brother plants the seed in the ground until that product gets all the way back to me and we package that cheese for someone to buy,” he says.

Embracing change, the Hemme Brothers milk 150 cows today, which is proof growth doesn’t always have to come in adding cows.

“If we didn’t go down the road of making cheese ourselves, we would probably milk 300 to 400 cows today, and why we didn’t go that route is we’re going to have to milk even more 10 years from now, like 700 to 800 cows. And then we’d have to start milking 1,000 cows. When does it end? And so, if we can take the milk that we already are making, and add value to it, we can bring back future generations. And we took that way, instead of adding more cows,” adds Nathan.

In a labor tight market today, keeping cow numbers down has also helped this dairy fend of the labor struggles that dairies across the country continue to battle. With the four brothers working on the farm, he says their biggest challenge is processing all the milk they produce.

“We’re processing 25 to 30% of our milk. And so, in the future, we would like to get that to 100% and be able to be able to market 100% of our milk ourselves, instead of relying on a cooperative to do 75% right now,” says Nathan.

A strategy to sustainably grow, Nathan says it was key in the success of bringing all the Hemme brothers back to the family farm. And instead of riding the waves of the milk markets, Nathan says they’re setting their own price with the cheese business.

“For years, it’s been the story of, ‘oh, we’ll have two good years, or we have one good year of milk prices.’ And that’s why we started getting into the cheese business. And we want to have a good year every year. And you can’t do that with commodity milk prices. And you hate to say that, but that’s the truth,” says Nathan.

From weathering the turbulence of commodity prices as price takers, to working their way to now being price makers, the Hemme brothers have found a niche that can help their family legacy live on.

USDA Releases Three Announcements About the Dairy Margin Coverage Program

December 8, 2021

<https://www.dairyherd.com/news/policy/usda-releases-three-announcements-about-dairy-margin-coverage-program>

USDA announced earlier today that open enrollment for the Dairy Margin Coverage (DMC) program will begin Monday, Dec. 13 through Feb. 18. This year's DMC signup is accompanied by new enhancements that add more value to producers seeking protection against unforeseen market risks.

National Milk Producers Federation (NMPF) is urging farmers to sign up for the maximum coverage in 2022. "Signing up for DMC, which offers cost-effective margin protection for small and medium-sized producers as well as inexpensive catastrophic coverage for larger dairies, is a no-brainer for 2022, especially considering the improvements we fought for in Congress and advocated for at USDA," Jim Mulhern, president and CEO of NMPF says. "This year has illustrated just how valuable this program is for those producers that can take advantage of it, and DMC will once again be an essential part of many farmers' risk management in the coming year. We thank Congress and USDA for making the program stronger and helping dairy farmers in challenging times."

A record of more than \$1.1 billion in DMC payments are expected to be distributed to dairy producers under the 2021 program, according to USDA.

Supplemental DMC Enrollment

Eligible dairy operations with less than 5 million pounds of established production history may enroll supplemental pounds based upon a formula using 2019 actual milk marketed, which will result in additional payments. Producers will be required to provide FSA with their 2019 milk marketing statement. Supplemental DMC coverage is applicable to calendar years 2021, 2022 and 2023. Participating dairy operations

with supplemental production may receive retroactive supplemental payments for 2021 in addition to payments based on their established production history. Supplemental DMC will require a revision to a producer's 2021 DMC contract and must occur before enrollment in DMC for the 2022 program year. Producers will be able to revise 2021 DMC contracts and then apply for 2022 DMC by contacting their local Farm Service Agency (FSA) office.

DMC 2022 Enrollment

After making any revisions to 2021 DMC contracts for Supplemental DMC, producers can sign up for 2022 coverage. The signup period runs from Dec. 13, 2021, to Feb. 18, 2022. According to Erick Metzger, general manager, National All-Jersey Inc., based on the first three years of the program, the \$9.50 level of coverage provided the greatest return.

Updates to Feed Costs

USDA is also changing the DMC feed cost formula to better reflect the actual cost dairy farmers pay for high-quality alfalfa hay. FSA will calculate payments using 100% premium alfalfa hay rather than 50%. "By my calculations, this change would have increased 2021 year-to-date feed costs by an average of \$0.22/cwt," Metzger reports. "The impact will be approximately \$1,700 for each 1 million pounds of milk insured that received indemnity payments."

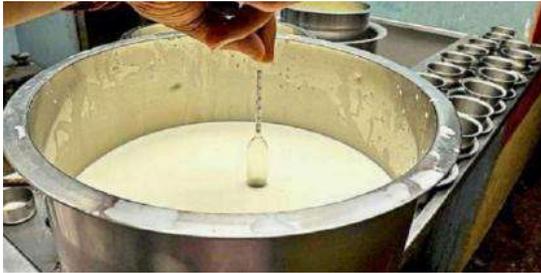
According to NMPF's press release statement, the change in the hay price will be retroactive to January 2020.

These improvements occurred at NMPF's urging, noting the alfalfa recalculation also will further benefit dairy in the next farm bill, as it will increase the amount of funds available for all programs that benefit dairy farmers.

6500 Liters Of Adulterated Milk Split

Thu 09th December 2021 | 02:44 PM

<https://www.urdupoint.com/en/pakistan/6500-liters-of-adulterated-milk-split-1422441.html>



MUZAFERGARH, (UrduPoint / Pakistan Point News - 9th Dec, 2021) :An enforcement team of the Punjab food Authority (PFA) split over 6500 liters of

milk for public health safety after it was found to be adulterated and unfit for human consumption in Kot Addu, district Muzaffargarh. Director PFA Rifaqat Ali Nashana said, they tested milk at a milk collection center where the Lacto scan test revealed the milk contained water and detergents with low presence of fats and natural nutrition.

He said that 6500 liter of milk was spilled on the spot leaving it unusable and a warning notice was issued to the owner to improve milk quality.

Milk Output in the Northeast Increased by 4.9 percent in 2019-20

Updated 8 December, 2021 4:06 PM IST

<https://krishijagran.com/news/milk-output-in-the-northeast-increased-by-49-percent-in-2019-20/>



When compared to 2018-19, milk production in the Northeast rose by 4.9 percent in 2019-20. According to a statement issued by the Ministry of Fisheries, Animal Husbandry and Dairy, despite increased milk production, per capita milk availability remains significantly below the ICMR recommendation.

According to a milk demand study conducted by the National Dairy Development Board (NDDB) in 2019 through M/s A C Nielson under the National Dairy Plan Phase-I scheme, estimated household consumption in 2019 and projected household demand in 2030 of milk and milk products in the Northeast states are as follows:

State	Estimated Household Consumption 2019		Projected Household Demand 2030	
	HH Consumption (LLPD)	Per Capita (ml)	HH Consumption (LLPD)	Per Capita (ml)
Arunachal Pradesh	2.22	142	4.90	267
Assam	47.89	138	89.87	227
Manipur	1.65	59	3.52	109
Meghalaya	2.48	71	1.50	36
Mizoram	1.15	94	6.58	466
Nagaland	2.22	100	3.89	151
Sikkim	2.08	324	1.84	268
Tripura	4.89	120	14.83	318

"The projected household demand in 2030 implies marketing potential for dairy products in Northeastern states, particularly in Assam," the Ministry of Fisheries, Animal Husbandry, and Dairying said in a statement. The current demand/consumption of milk and milk products in the Northeastern region is met jointly by local production as well as the country's top dairy cooperatives and private sector dairies.

In addition to state efforts, the Government of India has adopted the following initiatives to improve the quality and quantity of milk and milk products throughout the country, including the Northeastern region:
In July 2021, the National Program for Dairy Development scheme was reformed / realigned to focus on improving milk quality by creating/strengthening infrastructure for quality milk

testing equipment as well as primary chilling facilities.

Rashtriya Gokul mission is being carried out in order to enhance the genetics of the bovine

population, increase milk output and productivity in bovines, and create and conserve indigenous bovine breeds.

Dairy Report: Hundreds of Dairy Cattle Perish Due to Floods, Farmers Still Recovering

December 7, 2021

<https://www.dairyherd.com/news/education/dairy-report-hundreds-dairy-cattle-perish-due-floods-farmers-still-recovering>

We're learning more about the damage done to several dairies in Washington State as the result of flooding at the end of last month. The Seattle Times reporting 100 dairy farms in two counties were impacted by the near record flooding. Many of the farms located near the Skagit and Nooksack Rivers.

You are seeing video of the damage to Sumas, which is just south of the U.S. Canadian border. It's reported one dairy farm, Bumgardner Dairy near Mt. Vernon, lost 44 cows in the flood waters.

A Go-Fund-Me page says the family struggled in frigid, chest deep water for hours trying to save as many as they could but watched cow after cow succumb to the cold and collapse in the swift current.

Also impacted, EPL Feed in Sumas, the largest feed mill in the region. It supplies feed to about 100,000 milking cows in the area. It was offline until just a few days ago. Washington State is the 10th largest milk producing state in the nation.

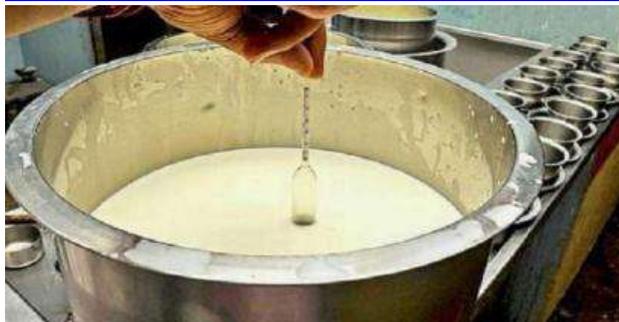
The situation is not that much better as you go north into Canada and British Columbia. People in Abbotsford are just starting to clean up after an evacuation order was lifted over the weekend. The province's agriculture minister reporting 420 dairy cattle died in the flooding along with 628,000 poultry and 12,000 hogs.

Richard Bosma was just one of the many farmers in the area who was forced to leave but worked with friends and neighbors to help rescue his animals. The good news, 98% of the cows in the Sumas Prairie region survived the flood waters.

PFA Disposes Off 6000 Litres Adulterated Milk

Thu 02nd December 2021 | 03:46 PM

<https://www.urdupoint.com/en/pakistan/pfa-disposes-off-6000-litres-adulterated-milk-1416571.html>



MUZAFERGARH, (UrduPoint / Pakistan Point News - 2nd Dec, 2021) :Punjab food Authority (PFA) raided and seized 6000 litres adulterated milk which was later disposed off.

According to PFA spokesman, the dairy safety team of PFA raided at Ahmed chowk in the premises of City Police station on Thursday and

caught three vehicles loaded with adulterated milk.

The milk was checked through CDR test which proved adulterated with mixing of water and detergents. The team disposed off the 6000 litres milk.

According to Director General PFA, the raids were being carried out on daily basis against adulteration mafia for provision of quality milk to citizens.

PFA Disposed Of 800 Liter Adulterated Milk

02nd December 2021

<https://www.urdupoint.com/en/pakistan/pfa-disposed-of-800-liter-adulterated-milk-1416080.html>

MUZAFERGARH, (UrduPoint / Pakistan Point News - 2nd Dec, 2021) :The Dairy Safety team of Punjab food Authority (PFA) disposed off adulterated milk in the urban areas of the city here on Wednesday. According to PFA spokesman , the PFA teams launched a crackdown against adulterated milk and checked quality of the milk at different shops in the city.

The PFA team found three shopkeepers involved in selling adulterated milk in which different chemicals were used for thickness. The PFA team imposed fine of Rs 50,000 and also disposed of 800 litres adulterated milk. The DG PFA Razaqat Ali Naswana on that occasion said that crackdown against the milk shops would continue without any discrimination.

Economically sustainable Irish farms do not tally on the environment scale, report finds

WED, 01 DEC, 2021 - 16:49

<https://www.irishexaminer.com/farming/arid-40757106.html>

A new report compiled by Ireland's agricultural research body has claimed the most socially and economically sustainable farm types in Ireland are the least sustainable environmentally.

Teagasc National Farm Survey 2020 Sustainability Report highlights the stark inequality between sectors.

Across the board, 79% of farms were 'viable'. However, when analysts drilled down into each of the sub-sectors just one in six (17%) farms with beef cattle and just over one in four (26%) of those with sheep passed the study's economic test.

The economic viability of a farm business was measured by calculating whether the income it

generated was greater to or equal to the minimum wage when compared with the number of hours worked by the family, while also providing an additional five per cent return on non-land based assets employed on the farm.

The report uses the Teagasc National Farm Survey to track the performance of dairy, cattle, sheep and tillage farms across Ireland in improving their economic, environmental and social sustainability.

It includes data for 2020 along with comparable figures stretching back through the last decade, allowing for a temporal assessment of farm performance.

Lead author of the report, Dr Cathal Buckley, Teagasc Rural Economy and Development Programme, said: "There is a sustainability paradox when results are examined by farm system.

"Dairy farms have a higher level of economic and social sustainability compared to most other farm systems, but also have higher levels of environmental emissions.

"By contrast, drystock farms have lower levels of economic and social sustainability, but also have much lower levels of environmental emissions.

"Tillage farms lie in between dairy and drystock farms in terms of economic sustainability, but also have low levels of environmental emissions."

The report also looked into the social sustainability of farms.

Interestingly, despite covering the year of the pandemic, isolation among farmers was also reported to be at its lowest level since 2015.

However, the number of farmers over 60 years old, with no household members aged under 45 reached the highest over the period at 37% - nearly double the 21% reported in 2015.

The figure rose from just 15% in 2015 to 38% last year on tillage farms. In 2015, the same figure was just 6% on dairy farms, but rose to 17% last year, however, the sector remained the least affected.

The financial return per farm worker was best for dairy farmers averaging €55,271 - that's almost four times the €13,888 made per worker on suckler and beef enterprises.

Trevor Donnellan, head of the Agricultural Economics & Farm Surveys Department in Teagasc, and co-author of the report explained: "Dairying continues to be the powerhouse when it comes to economic sustainability compared to other farm systems.

"Average dairy farm incomes far exceed drystock systems and are also ahead of tillage farm incomes. On the flip side, dairy farmers

typically have a less favourable work-life balance, typically working longer hours than farmers in other systems."

However, a different picture of farm sustainability was painted when the environmental aspects were examined.

Across the industry, total Green House Gas emissions remained fairly stable.

Marginal gains were also made compared to last year on N and P use efficiency, which measures the proportion of nutrients retained in the farm compared to what was put in.

Dairy farmers in particular were found to have made significant gains in environmental efficiency, with a fall in the Green House Gas emissions intensity of milk production (CO₂ produced for every kilogramme of Fat and Protein Corrected Milk).

Effectively, it means that the average kilogramme of milk was produced with a lower carbon footprint.

However, this improvement in emissions intensity was offset by a higher volume of milk produced on the back of increase to the average herd size. Hence, farm-level emissions increased on dairy farms in 2020.

Therefore, despite improved emissions efficiency, total dairy farm emissions continue to increase although emissions per hectare remained constant on the back of increased area farmed.

Across other sectors, Green House Gas emissions from sheep and tillage farms remained stable, while average emissions on beef and suckler farms declined slightly.

Overall, the decline in beef and suckler emissions offset the increases from dairy farm emissions.

One of the most positive developments was the reduction in ammonia emissions, which was attributed to the increased adoption of low emissions slurry spreading.

Ammonia emissions have been a challenging area for farming.

However, despite increases in productivity, on average, ammonia emissions showed some decline in 2020 compared to the preceding years, across all systems on both a farm and per hectare basis.

Dairy was the main culprit, with the average dairy farm producing approximately 2.84 tonnes of ammonia emissions in 2020.

The figure is around twice as much as the average beef or suckler farm, which produced 0.84 tonnes of ammonia last year.

Dr Buckley said: "It is notable that ammonia emissions declined in 2020 relative to the preceding years across all farm systems.

"Data which track farm management decisions indicate a significant movement towards low emissions slurry spreading methods and this is helping to reduce ammonia emissions."

In aggregate terms, 36% of all slurry applied used a LESS (low emission slurry spreading) approach in 2020, compared to just 16% in 2019.

Danone to switch dairy factory to plant-based Alpro as diets shift

DEC 1, 2021

<https://dairynews7x7.com/danone-to-switch-dairy-factory-to-plant-based-alpro-as-diets-shift/>



France's Danone, the world's largest yoghurt maker, plans to switch one of its big French factories to plant-based drinks next year in a bet on fast-growing non-dairy milk alternatives.

Danone said in a statement on Wednesday it will invest 43 million euros (\$49 million) in 2022 to convert its Villecomtal-sur-Arros dairy plant in southern France into a production site of mainly oat-based drinks for its Alpro brand. This follows a 16.5 million euro investment this year in its Alpro plant in Issenheim, eastern France.

Danone, owner of the Evian water and Activia yoghurt brands, said the French market for plant-based foods has tripled in seven years and should grow another 50% by 2025.

"We observe consumers' interest in plant-based recipes, which are a simple solution for those who want a more varied and diversified diet," Danone France's François Eyraud said.

The factory will be converted in the autumn of 2022 and make its first Alpro-branded drinks from the second quarter of 2023.

Danone acquired Alpro in 2017 via its \$12.5 billion acquisition of U.S. organic food producer WhiteWave as it tried to capitalise on healthier eating trends.

In February, Danone agreed to buy U.S. plant based foods specialist Earth Island, in a deal that would help it reach a target of generating 5 billion euros (\$6.1 billion) of plant-based sales worldwide by 2025.

Dairy will be an important part of the global food solutions puzzle

DEC 1, 2021

<https://dairynews7x7.com/dairy-will-be-an-important-part-of-the-global-food-solutions-puzzle/>



The IDF has released its 15th edition of the Animal Health Report 2021 which is available to download for free on the IDF website.

The yearly edition takes readers through a journey of animal health and welfare and illustrates the importance of adequate animal care of dairy animals for sustainable production. The 15th edition will dive into key topics like the power of the welfare language; cooling dairy cattle and providing appropriate shelter; indicators for mastitis and udder health; biosecurity and milk quality.

Through the formal and informal dialogues that took place this year such as the United Nations Food Systems Summit and COP26, it has become clearer that feeding the world's growing population will require many different and innovative approaches, and that dairy will continue to be an important part of the global food solutions puzzle. While producing and delivering the

wholesomeness of dairy is what brings the IDF community together, the IDF says we are reminded in this edition of the Animal Health Report that dairy production looks very different across our global member countries, and just like the challenge of feeding our growing world population, there is no one size fits all dairy production system.

The report will pinpoint countries from various continents like Nigeria, New Zealand, Chile, Israel, as well as across the EU, and what we can learn from their solutions to track mastitis and milk quality, biosecurity, disease detection and antimicrobial use and resistance. There is also a special chapter on antimicrobial use in animals by the OIE and another one of the SDGs and animal welfare.

Caroline Emond, IDF director general, says: "IDF's dynamic work on dairy animal health and welfare supports constructive science-based dialogue within the dairy sector and its stakeholders on how to best approach animal health and welfare, its implications for disease prevention and the consideration of all aspects related to farm management, food safety, human health and dairy technology."

Kerry study shows that consumers can pay a premium for more protein

DEC 1, 2021

<https://dairynews7x7.com/kerry-study-shows-that-consumers-can-pay-a-premium-for-more-protein/>



Kerry, a private label food and beverage partner, has released a new report on the protein market. In a study of over

6,300 consumers in 12 countries, the group found that most protein consumers are motivated by health and wellness, and that consumers are willing to pay a premium for better protein content.

Kerry's recent research includes a study of popular barbecue variations providing insight for private label manufacturers.

The report, titled “The Protein Mindset: Uncovering Consumers’ Perceptions and Preferences of Proteins,” reveals that 50% of respondents associated protein with “healthy diet” and 46% with “healthy lifestyle.” The study also showed that taste, quality of protein and natural ingredients are the top three most important factors when it comes to choosing protein products. 75% of global consumers surveyed said they would pay a higher price for protein fortified food and beverages. More than half of global consumers would pay a 10% premium, and an additional 15% would be willing to pay a 25% premium.

Yogurt, milk shakes, smoothies, protein shakes remained amongst the most preferred dairy products as per the study. Protein with clean labels product is another potential area for charging premium in food categories.

Other findings in the Kerry study show that proteins are perceived as a supporter of overall health, which drives sales. In addition to being

added to everyday foods and beverages, consumers are looking to incorporate protein more into indulgent snacks and treats.

“Accelerated by COVID-19 and consumer focus on health and rising interest in proactive — versus reactive — nutrition, rapid change has occurred recently in food and beverage markets around the world as broader awareness of the many benefits of protein increasingly drives purchase decisions among mainstream consumers,” said Soumya Nair, global director of consumer research and insights at Kerry.

“This extensive Kerry research puts protein foods and beverages squarely under a microscope to understand where the opportunities lie for brands to innovate. There is little doubt the protein revolution in food and beverages offers exciting and dynamic opportunities for all product developers. This timely report provides a range of insights to consider incorporating within their short- and long-term product planning and development processes.”

Synthetic biology building sustainable businesses in the vegan milk

NOV 20, 2021

<https://dairynews7x7.com/synthetic-biology-building-sustainable-businesses-in-the-vegan-milk/>



The significant scientific effort and VC investment in synthetic-biology-led dairy products ought to be of some interest in India

In the previous article (bit.ly/3oEccb2), we saw a short excerpt from a US patent on making “animal-free dairy” substitutes composed of mammalian milk proteins. The US Patents and Trademarks Office assigned it to Perfect Day

Foods in 2018. Twenty-first century synthetic biologists are reconstructing lactation and photosynthesis; two core phenomena powering planetary biology. We also discussed the ability of animals to naturally customise their milk. Evolution is slow, messy, and often inefficient. But studying mammalian lactation also shows us how evolution has resulted in remarkably fine-tuned solutions to problems. Consider the duck-billed platypus, an ancient mammal on the timeline of evolution, that still lays eggs; it has evolved a milk pad but not teats. As a result, its newborn sucklings are exposed to a large load and variety of microbes. Discovered only last year, an unusually potent antimicrobial protein, MLP (Monotreme Lactation Protein), found only

in platypus milk serves to protect its babies from pathogens.

A key conceit of synthetic biology, with its intellectual origins in the engineering culture of MIT, is that we can now better nature. Professor Patrick Brown of Impossible Foods has frequently labelled animal farming as an obsolete, inefficient, and ultimately destructive technology in the food supply chain. Synthetic biology entrepreneurs like Perumal Gandhi and Ryan Pandya (Perfect Day) strive to make animal-free foods, like dairy, poultry, and seafood. Yet others strive to manufacture, at scale, esoteric materials like spider silk and horseshoe crab blood using the tools of synthetic biology. What enables this revolution?

The fact that there is a universal language of DNA common to all life forms enables the ongoing revolution of synthetic biology. Specific genetic sequences code for specific proteins. And this specific sequence is understood by even simpler organisms, like yeast for instance. Scientists in Kochi have published the sequence of genetic letters that instruct the Vechur cow to produce lactoferrin. If this sequence were to be inserted in, say, brewer's yeast, then it will produce lactoferrin under the right conditions. More recently, Australian scientists sequenced the Platypus genome to precisely identify the code for MLP, the novel antibacterial protein. Several synthetic biology entrepreneurs are attempting to build sustainable businesses in the vegan milk sector, broadly defined. They are taking approaches as different as chalk and cheese. Amongst the most ambitious approaches are the ones trying to grow cell cultures of the mammary organs themselves to secrete human and other mammalian milks. At the other end of the scientific and technological complexity spectrum are the so-called "plant milk" companies. Oatly, an oat-milk company has 2.3% of the global plant-milk market share and is valued at \$12 billion. Several start-ups are attempting to make "animal-free" value-

added dairy products such as cheese, and ice cream, by applying synthetic biology techniques for making milk proteins. At least one start-up is trying to re-constitute human breast milk with critical proteins made through synthetic biology.

Some common arguments generally made for an animal-free food supply chain are as follows: 1) Factory farming of animals has led to widespread antibiotic resistance because best practices in such factories required the extensive use of antibiotics. 2) Pandemics also have arisen on account of the high density of animals in the factory farms. 3) The vast amounts of concentrated animal waste also require careful disposal of nitrogen compounds into the environment. 4) Finally, the ethical alternatives offered by synthetic biology decrease animal suffering. Thus, scalable and sustainable animal-free systems to produce meat, milk and leather are popular investment destinations.

Perfect Day Foods, incubated at Rebelbio, an early synthetic biology incubator, has launched cow-free (initially, it was called muufri) ice-creams. The founders have been able to scale production of milk proteins, especially whey proteins, using synthetic biology techniques. They rely on re-programming a type of fungus called *Trichoderma* to produce these whey proteins. We have earlier seen how vegan burger-makers use plant-derived fats like coconut oil and palm oil to give it the necessary fatty flavors. However, companies like Perfect Day are exploring the possibility of re-creating fats of animal origin like butter through synthetic biology. Various microscopic algae are viable organisms for the scalable production of such fats. The intense scientific effort and large venture capital investments driving progress in animal-free dairy products made with synthetic biology ought to be of some interest in India. After all, India is the world's largest dairy producer, with the largest number of cattle as well and a hundred million. Similarly, the commercial success

of synbio burgers and also synbio leather pique our interest. Is it possible that our humble dairy farmers might meet the same fate as our indigo growers of a hundred years ago? Or does it behove us to protect the gene pool of the huge number of native breeds of cattle, and

other animals? For, one day, like the strange duck-billed platypus, one of these animals will surely reveal vital secrets to our own well-being. We are, after all, the children of Bharata, who grew up playing with lion cubs and drinking milk with them.

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