



# Dairy Pulse

25<sup>th</sup> Edition



Think Dairy



Suruchi Consultants  
Delivering solutions with integrity

1<sup>st</sup> - 15<sup>th</sup> Nov, 2016

# Dairy Pulse 25<sup>th</sup> Edition (1<sup>st</sup> to 15<sup>th</sup> Nov, 2016)

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## Suruchi endeavor in Skill/ Entrepreneur Development Domain

### ➔ *Diploma in Dairy Technology (DDT) in alliance with IGNOU*

Study Center authorized by School of Agriculture Indira Gandhi National Open University (IGNOU) Details as below:

Academy of Dairy Skill Development  
Unit of Suruchi Consultants  
C-49, Sector-65, Noida U.P – 201307  
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New admission will start in July, 2017 for the DDT Course. For more information visit IGNOU website [www.ignou.ac.in](http://www.ignou.ac.in)

➔ Aspiring entrepreneurs might attend our introductory session (Free) on how to set up dairy farm and plant on every 1<sup>st</sup> and 3<sup>rd</sup> Saturday of month from 2 PM to 5 PM, Prior registration is must and for that contact our office.

➔ *47th Dairy Entrepreneurship Development Program (DEDP) at Suruchi Consultants, C-49, Sec-65, Noida 15<sup>th</sup>, 16<sup>th</sup> & 17<sup>th</sup> Jan, 2017 with Guided Tour to a Dairy Farm plus a milk processing plant.*

For more information please visit on website [www.suruchiconsultants.com](http://www.suruchiconsultants.com)

➔ Suruchi is coming to Mumbai or Hyderabad with its third Regional Dairy Entrepreneurship Development Program (RDEDP) in December 2016: Register soon

For more information please visit on website [www.suruchiconsultants.com](http://www.suruchiconsultants.com)

➔ Suruchi is launching 1<sup>st</sup> Second Level Dairy Entrepreneurship Development Program (2<sup>nd</sup> Level DEDP) 2016 one week intensive hand on for indigenous milk products. The dates will announce soon.

For more information please email on [shikha@suruchiconsultants.com](mailto:shikha@suruchiconsultants.com) or contact at +91 0120 4370845

➔ 5th IFCN Regional Workshop – India “Global dairy crisis: Lessons to be learned for dairy development in India” at Anand, Gujarat, India on 28th-29th November 2016

For more information please email on [prashant.tripathi@ifcndairy.org](mailto:prashant.tripathi@ifcndairy.org) or contact at +91 431 5606 263

## **Dairy co-operatives happy about demonetisation boost to banking transactions**

NEW DELHI/PUNE: Dairy milk cooperatives across several big states are happy about the demonetisation-led boost to banking transactions and many like Amul, Karnataka Milk Federation and Mother Dairy expect to overcome resistance from farmers while transferring money to their bank accounts.

Dairy companies usually pay farmers from whom they source milk once a week in cash. “We already disburse 970 crore annually — under the motivational fee to farmers since the past one year and will start making the weekly payments too via bank accounts,” says the cooperative managing director Rakesh Singh of Karnataka Milk Federation, which daily procures 70 lakh litres milk from 9 lakh farmers across 14,000 societies. The federation now plans to start disbursing payments to farmers which it does once in two or three weeks through bank accounts. It pays about Rs 18-20 crore daily to milk-supplying farmers.

Hatsun Agro, a leading private dairy player from Chennai which procures 28 lakh litres milk daily and disburses Rs 73 crore every ten days to farmers has been making bulk of its payments through bank accounts for the past one and a half years. “We have made no cash transfers, except for few old people who are unable to go to bank. Initially, there was resistance from farmers but we wanted to get them away from the clutches of money lenders,” says RG Chandramogan, MD of Hatsun Agro.

With the limit of withdrawal capped at Rs 24,000 per week per account, milk societies will be forced to transfer money in milk producers’ accounts opened during Jan Dhan Yojana, which were not active, feels RS Sodhi, managing director at Gujarat Cooperative Milk Marketing Federation that owns the country’s top dairy brand Amul.

# Integration of science and farming is key to development: Gujrat CM

TNN | Updated: Nov 14, 2016, 11.49 AM IST  
<http://timesofindia.indiatimes.com/>



*Gujrat CM Vijay Rupani (TOI photo)*

Nagpur: "Gujarat could progress at the rate of 14-15% mainly because farmers and scientists here work in tandem. Also farmers in Gujarat follow diversified cropping pattern along with allied agriculture activities like dairy. Agriculture in any part of India can prosper only if farmers adopt integrated agriculture."

This was stated by the Gujarat Chief Minister Vijay Rupani here on Saturday. Rupani was speaking at the inauguration of the three-day workshops for farmers at Agro Vision, an agriculture and trade fair organized by the union minister for transport and shipping Nitin Gadkari.

Giriraj Singh, union minister of state for Micro-Small and Medium Enterprises (MSME), gave a lot of emphasis on water management and conservation for successful and profitable agriculture. He said that the per capita availability of water was decreasing drastically in the country and hence the need for strengthening the ongoing projects like the Jalyukta Shivar in Maharashtra. Industrialization and water also go hand in hand and hence water should be dealt with scientifically.

Gadkari in his address said that the National Dairy Development Board (NDDB) had expressed its interest in buying milk from Vidarbha. He said that this meant that Vidarbha needed to create a cooperative sector in dairy industry. For this it also first need to research and start the milk industry based on good India breeds like Sahiwal and Gir.

CD Mayee, former chairman of the Agriculture Scientists Recruitment Board (ASRB), said that Agro Vision was investing a lot in farmers' education through workshops every year in the fair as it was proving to be a good training ground for the farmers since past seven years. A lot of revenue generated from the trade fair was spent on farmers' education for bringing the best of expertise in agricultural science and technology for educating the farmers on the latest cultivation practices and technology.

This year workshops will be held till Monday on 24 different subjects where even the top experts from ITC, NDDB, Amul, various central and state government institutes in agriculture from the city and all parts of country would guide the farmers.

## Private dairies under margin pressure on increased investments, costs

HYDERABAD: Several private dairy firms in the country are facing pressure on their profit margins due to high interest outgo on account of large scale capital investments as well as mounting milk procurement prices and administrative costs.

Buoyed by increasing demand, private dairy firms have taken up large capacity additions involving huge investments in plant and machinery towards milk chilling, cold chains, value-added products and parlours, apart from hiring professionals in production and marketing over the last few quarters.

[Umang Dairies](#), [Heritage Foods](#), [Modern Dairy](#) and [Prabhat Dairy](#) have all witnessed pressure on profits and fall in margins over last few quarters on account of increased expenditures and rising inputs costs.

Some firms said they were compelled to increase investments in production and marketing to take on increasing competition from global and domestic dairy majors that have been on an acquisition drive to grow their business.

Bigger deals in the space included world's largest dairy player Groupe Lactalis' acquisition of Tirumala Milk Products and US firm Schreiber buying controlling stake in Dynamix Dairies.

Global giants like FrieslandCampina and Kerry Group are now looking at forging strategic partnerships with Indian dairies even as several big companies in the country, including Mahindra, ITC, PepsiCo and Coca-Cola, have announced foray into dairy business.

Umang Dairies' net profit slipped to Rs 2.84 lakh in the quarter ended September from Rs 11.72 lakh in the previous quarter, mainly due to high input costs and expansions including setting up of a new biofuel plant.

"Our profits dipped significantly on the back of rise in milk procurement prices and investments in cold chain and expansion activities. Resultantly, even our EBDITA earnings have come down by 8-10% in the quarter ended September," its CEO C Venugopal said.

Hyderabad-based Heritage Foods reported a slight fall in EBITDA at Rs 36.4 crore in the second quarter against Rs 39.4 crore in the previous quarter while net profit dipped to Rs 15.7 crore from Rs 16.5 crore. Heritage opened over 114 dairy parlours and commissioned a 2.1 MW wind power plant in Andhra Pradesh for its dairy unit in the first two quarters.

Analysts said higher investments, leading to higher debts, and increased operational costs are impacting private dairies' margins.

"Expansions leads to an increasing demand for labour, mainly sales executives, store handlers, workers at processing plants etc. pulling down EBDITA earnings," said Jubil Jain, analyst at Phillip Capital.

Another analyst tracking listed dairy firms said, "Higher investments is leading to higher debt for the companies, impact of which can be seen in their finance costs, which have gone up in the last two

quarters.”

Private dairies hope to improve their performance over next few quarters with investments yielding the desired results in terms of improved sales and margins. “We expect the milk procurement prices to soften in third and fourth quarters, which witnesses higher milk production that will help in improving our margins,” said Raviraj Vahadane, chief financial officer at Prabhat Dairy.

## **Punjab AAP reaches out to dairy farmers, says ‘No question of slaughtering cattle, will work for gau raksha’**

AAP held its ‘Punjab Bolda Hai’ dialogue with dairy farmers Thursday, with the session headed by its manifesto committee head Kanwar Sandhu.

Written by [Divya Goyal](#) | Ludhiana | Published: May 13, 2016 4:04 am

<http://indianexpress.com/>

ASSERTING THAT the Aam Aadmi Party (AAP) party had “no intention of hurting the religious sentiments of any community” and that “it too will work for gau raksha (cow protection)” if it comes to power, AAP Thursday said “there is no question of slaughtering non-milch cows or stray bulls in Punjab.”

AAP held its ‘Punjab Bolda Hai’ dialogue with dairy farmers Thursday, with the session headed by its manifesto committee head Kanwar Sandhu.

Sandhu, when asked about AAP’s solution for the stray cattle problem, said, “There is no question of introducing cow slaughter in Punjab. We will aim at streamlining the process to sell cattle to other states and proper certificates will be issued clarifying that cattle is being moved for milk or semen, not for slaughtering. At present, there is no transparency and vigilante groups are harassing farmers even when cattle is sold to other states. AAP understands that certain sections have religious values attached to cows and we have intention to hurt them.”

Asked about how stray cattle will be managed then, he said, “Non-milch and infertile animals will be provided with proper shelters. Farmers expressed that strays damaging their fields. If AAP comes to power, not a single stray will roam on roads or destroy fields.”

It was also proposed that milk and cheese would be included in daily menu of mid-day meals in government schools, if AAP wins in 2017. “It will benefit farmers as well as children. Farmers’ produce will be consumed at local level and students will get nutrition,” said Sandhu.

The farmers expressed concern over harassment by vigilante groups and ordeal they face while getting documents for inter-state selling of cattle. They also rued shortage of vets and complained that government vets also charge for visits. Farmers said that ‘short-term courses should be introduced for farmers to train them for emergencies and reducing cattle mortality.’ “We will also be working on providing loans to small farmers on pattern of Uttar Pradesh. It is currently the largest milk producer in the country. Biogas plants will be setup with shelters to make them economically independent. Cattle in Punjab will be auctioned to other states to reduce losses of farmers,” Sandhu told The Indian Express.

“Previously known for its milk and butter, AAP aims at bringing back Punjab’s glory. Farmers’ raised valid points that will be included in AAP manifesto. AAP aims at bringing Punjab at least among top three states in India in milk production,” said Chander Suta Dogra, member of AAP manifesto committee.

### **'Not free but uninterrupted power needed'**

Other concerns raised by dairy farmers included power supply and milk adulteration. Farmers said they “do not want free power” and were ready to pay for it. “We are not begging for free power but just want uninterrupted supply,” said farmers. Some farmers also complained that government is imposing desi indigenous breeds on them like Sahiwal which are ‘not economically viable’.

Daljit Singh, president of Progressive Dairy Farmers’ Association, having 6,500 big dairy farmers and 28,000 small farmers as its members, said, “Around 1,600 farmers attended discussion with AAP today. We have no comment to make on whether stray cattle slaughtering should be allowed or not. What we want is smooth transportation of cattle sold to other states and immediate FIRs against groups that harass us.”

## **A first: For more productivity and better breed, Pune farms use IVF, surrogacy techniques**

**The initiative was launched near Bilaspur in Chhattisgarh by JK Trust in July.**

Written by Garima Mishra | Pune | Updated: November 12, 2016 12:33 am

Revati is 11 years old and Rupa is 13. Both have passed the age of reproduction, as the average lifespan of a cow is 15 years. But in less than a year from now, their calves will be delivered by ‘surrogate’ cows. For the first time in the country, the oocytes (female eggs) of seven cows were collected from cow farms in Pune district earlier this week for reproduction through invitro fertilisation (IVF) technology. The hour-long process was carried out under J K BovaGenix, and it is a first-of-its-kind initiative conceptualised and developed to achieve pregnancies from IVF embryos of selected indigenous cattle breeds.

The initiative was launched near Bilaspur in Chhattisgarh by JK Trust in July.

Dr Shyam Zavar, CEO, JK Trust, said, “The main objective of livestock development activity is to upgrade local indigenous low milk-yielding cows and buffaloes by breeding them through artificial insemination, with the use of high-pedigree frozen semen of indigenous/ exotic breeds. The resulting upgraded progeny, with an improved genetic makeup, will have far better milk-yielding capacity. The technology works exactly the same way IVF works in humans.”

At the two cow farms in Pune district, a veterinarian collected oocytes from the donor cows using an ultrasound-guided follicular aspiration technique. The oocytes were placed in a petri dish and fertilised the following day with semen. The fertilised eggs will mature in an incubator for seven days, and the resulting viable embryos will be transferred into recipient cows.

During their reproductive years, both Revati and Rupa used to produce substantially higher amount of milk as compared to the other cows of the breeds they belong to — Khillari and Gir.

“While Revati would give 13.5 litres milk in a day, Rupa used to give 24 litres,” said Majid Pathan, who owns a cow farm in Indapur.

“Rupa’s daughter Shobha gives 28 litres of milk a day. That’s why we want to save the bloodline of Rupa. Generally, once a cow surpasses its age of reproducing, it is handed over to the slaughter house. At least this way, we can keep her alive and give her special care till she dies a natural death. Usually a cow gives birth to a calf once a year, but we can reproduce nearly 50 calves in a year through IVF. The oocytes of a cow gets ready in a month’s time... with the technology, the matured embryos of a donor cow can be transferred to the recipient cows,” said Pathan.

He added that among the 250 cows that he owns, he has already identified the cows that might be used as surrogates or recipient cows – Parni, Harni, Surbhi and Sagar in the Khilari breed, and Henna, Gita, Hansa, Kanchan and Kirti in the Gir breed.

“We will conduct a medical check-up before transferring the embryo in the medically fit cows,” said Pathan.

Other than the four cows of Pathan, the oocytes of three cows of Chandrakant Bharekar, who owns a cow farm, were also collected the same day. All the three cows — Morni, Radha and Saraswati — belong to Tharparkar breed and are almost four years old. “It’s a breed from Rajasthan and is a dual purpose cow, used for milking and farming in drought areas. However, over the past few decades, the breed was destroyed due to mixed-breeding practice. We have 150 pure breed Tharparkar cows, which have been reared to save the breed in its purest form. Morni, Radha and Saraswati give nearly 16 litres of milk in a day,” he said.

## **Brainstorming discussions in international symposium at veterinary varsity**

[Shariq Majeed](#) | TNN | Nov 11, 2016, 06.27 PM IST

<http://timesofindia.indiatimes.com/>

LUDHIANA: Various technical sessions were held on Friday in the on-going international symposium and 7th Conference of Indian Meat Science Association at Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), here. ST Joo from Republic of Koreastressed on the food safety issues related with the different cooking techniques. He stressed that the cooking time at temperature should be selected with the eating quality parameters and killing of pathogens.

GADVASU spokesperson said that there was a consensus that rampant slaughter of animals in lanes and bylanes of the city should be banned immediately. He added that the animal welfare should be considered and Food Safety and Standards Authority of India (FSSAI) regulations should be followed in true spirit while transporting the animals. "Effective utilization of slaughter house by products will reduce the cost of meat effectively, simultaneously benefiting the animal producers and processors in getting more profits by getting higher price for his produce. More emphasis was given on reduction of environmental pollution", he said.

R.K. Dhaliwal, director student welfare, Punjab Agricultural University, stressed on the importance of extension services for awareness, training and to develop entrepreneurship development in Animal Husbandry. She also emphasised to have collaborate extension programme between Punjab Agricultural University and GADVASU. Lee from university of Konkuk Republic of Korea, the scientist has presented various method of low-cost preservation techniques so that the losses occurring during transportation and storage of livestock produce can be reduced.

Manish Kumar Chatli, organising secretary stressed on the development of valuable products from animal industry waste including biodegradable films, high value low volume processed by products such as bone morphogenic proteins (BMP), collagen sheets etc. BMP increases the healing of fracture by 40-50% faster. Collagen sheets are being used in plastic surgery. V.V. Kulkarni, Director, National Research Centre (Meat) and President of society congratulated A.S. Nanda, Vice-Chancellor, GADVASU and Manish K. Chatli organizing secretary of IMSACON-VII for the grand organization of IMSACON-VII. NRCM has signed MoU with GADVASU, which will give the new avenue for research and entrepreneurs exchange, share knowledge and facilities.

## **FSSAI operationalises new standards for caffeinated beverages**

<http://www.moneycontrol.com/>

Nov 11, 2016, 08.50 AM | Source: PTI

Food Safety and Standards Authority (FSSAI) had sought public comments on the issue way back in 2013. But the same was reviewed and approved in May 2016.

Food safety regulator FSSAI has operationalised standards for caffeinated beverages and allowed use of 'blue tint' in plastic container of five litre and above for packaging of mineral water. Food Safety and Standards Authority (FSSAI) had sought public comments on the issue way back in 2013. But the same was reviewed and approved in May 2016. In a fresh circular, the FSSAI has said the finalised standards for caffeinated beverages and use of 'blue tint' in plastic container of five litre and above for packaging of mineral water have been operationalised from November 4 till the issuance of final notification. As per the new standards, water used in preparation of caffeinated beverages should conform to the standards of packaged drinking water. It should contain not less than 145 mg per liter and not more than 300 mg per litre total caffeine from whatever sources. A declaration 'consumer not more than 500 ml per day' should be made on the label that represents the per day quantity, the FSSAI said. Vitamins namely thiamine, riboflavin, niacin, vitamin B12 may be added at one recommended daily allowance level. That apart, the FSSAI has allowed use of 'blue tint' in plastic container of five liter and above of poly carbonate and poly ethylene terephthalate (PET) used for packaging mineral water.

# FSSAI Invited to Speak at the 3rd Annual 'Food Quality & Safety Congress 2016'

MUMBAI, November 10, 2016 /PRNewswire/ --

<http://www.prnewswire.co.in/>

Food safety is one of the serious public health concerns in India as the challenge of feeding a large, geographically dispersed population is immense. Similarly, testing and analytical capacity among India's official food safety monitoring units is inadequate to manage a supply chain system that feeds such a large population.

In recent years, food scandals have plagued India like never before, bringing the FSSAI (Food Safety and Standards Authority of India) at the forefront of its regulatory framework and policies governing the food sector.

Launched and conceptualized by **Inventicon Business Intelligence Pvt Ltd**, the **3rd Annual Food Quality & Safety Congress India**, will be conducted on 14th and 15th December at Vivanta by Taj - Dwarka, New Delhi, is the only dedicated conference bringing regulators, F&B manufacturers with analytical services and testing companies together to discuss best practices in aligning food quality and safety systems with FSSAI's changes and instrumentation standards.

Featuring F&B quality and safety industry leaders, this conference will examine strategies in implementing quality and food safety systems. Delegates will learn how to fast-track an analytical set-up, enhance nutrition quality and comply with the latest food regulations to mitigate risk exposure.

The summit has gained the stature of one of the biggest platforms for food professionals to convene, network and discuss the latest trends, policies and regulatory framework.

In its 3rd year, it has received an overwhelming response and has been **attended by over 250+ decision makers and influencers from the industry**.

To give the delegates a hands-on experience, this year, a site visit to **SCIEX** facility has also been included. The objective would be to help delegates understand and see live, the most critical tool/solution that is being used globally in the food testing and analysis workflow. Western countries are all hooked to it and the government is serious about implementing the same in India; this shall be demonstrated in action and how it can benefit regulators/industry executives alike.

Some of the participating companies this year are **Unilever, Godfrey Philips, Marico, Yakult Danone, E&Y, Quality Council of India, McDonald's India, Bisleri and Patanjali** among various others.

## **Take away from the summit:**

Delegates will gain a comprehensive understanding on the latest cost-effective analytical techniques, best practice strategies for overcoming quality issues, practical solutions to real-life safety challenges and ensure their firm is positioned to comply with latest regulatory guidelines.

The lead partner for this conference is **SCIEX** - SCIEX is an operating company of Danaher and is a global leader focused on the research, design, manufacture and marketing of state-of-the-art solutions for mass spectrometry products.

Other key partners include - **Duke Thomson's, BUCHI, Bio-Rad Laboratories, Inc., ThermoFisher, Minitab|QSutra, ITC Labs, Doctors' Analytical Laboratories and Envirocare Labs Pvt Ltd**.

## **About Inventicon Business Intelligence Pvt Ltd:**

Inventicon Business Intelligence is the result of a decade-long effort by the founders in the space of business information. We develop sector-focused informational conferences and training workshops. Our conferences revolve around current scenarios and opportunities in the global market place and provide timely opportunities for solution providers to meet their target market and for end users to take back key learnings and experiences. Our events act as a point of convergence for senior industry professionals who strive for innovation, strategy and commercial drive. Delegates can expect to hear from industry's best practitioners, get in direct contact with regulators and stimulate high level discussions with peers.

In true sense, we aspire to disseminate critical business intelligence to the rapidly growing corporate and institutional world in the country and not limited to a specific sector.

**Related Links:**

For more information on the topics, speakers and the agenda, kindly visit: <http://mergers-acquisitionsindia.com/Download-Brochure.aspx>

To download the Post Show Report of the previous editions, please visit: <http://www.foodquality-safetyindia.com/>

Inventicon's corporate website: <http://inventiconasia.com>

Event Logo: <https://www.dropbox.com/sh/xw0tuvt2pms4i87/AADw6qm6a0-ti79GWxvtkaZaa?dl=0>

**Registrations are Open**

**To register for the conference, kindly write to:**

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## **Dairy in distress: the milk revolution draining Punjab dry**

<https://www.theguardian.com>

Thursday 10 November 2016 13.17 GMT

The children in the villages around the Indian city of Nabha in Punjab state all know what Horlicks is, although few have tasted it. The malted milk drink, manufactured by GlaxoSmithKline (GSK), is produced at the Horlicks plant in Nabha, which sources from around 1,500 dairy farmers in the surrounding area.

But after several years of severe drought in a region already heavily reliant on groundwater, water reserves are in decline and fodder for cows is becoming more expensive. This is making dairy production increasingly difficult in one of the highest milk-producing states in the country – itself the world's largest national producer of dairy.

GSK is not the only big business facing drought-related problems in Punjab. Danone buys 50,000 – 80,000 litres of milk from 5,000 farmers in 100 villages in the state, and Nestlé sources more than 300m litres of milk from 100,000 farmers in three Indian states, including Punjab.

To ensure a steady supply of milk, these companies have set up long-term sustainability projects in Punjab's villages. But, as water shortages worsen, can they protect dairy farmers from the potentially devastating effects of continuous droughts?

## India's 'white revolution' under threat

In 2012, Punjab's chief minister Parkash Singh Badal called for a "white revolution", encouraging the state's farmers to take up dairy since, he said, most were too reliant on wheat-paddy rotation crops with slim profit margins.

This revolution requires water. One cow consumes approximately 150 litres of drinking water a day. Water is also needed to produce fodder for cows.

Fertile lands and good infrastructure in the state such as dams and irrigation systems have helped stave off the kind of acute water shortages witnessed in other parts of India over the last few decades. But the severity of the latest El Niño weather cycle has led to unprecedented temperatures, causing rivers, lakes and dams to dry up in many parts of northern India. In Punjab, low rainfall has decreased crop yields and put a huge strain on the state's diminishing groundwater resources.

"In the winter, cows can graze in the fields. But in the summer when there's no rain we have to buy fodder," says Harpreet Singh, a dairy farmer from the village of Issi who supplies milk to Horlicks. "It's a big problem for us ... The cost of fodder keeps increasing but the price of milk stays fixed, so the entire business is in decline."

GSK dairy farmer in Punjab. Photograph: GSK Consumer Healthcare

Harpreet Singh makes approximately 50,000 rupees (£570) profit a month in the winter, but says his losses in the summer leave him without savings.

Horlicks' farmers aren't the only ones facing this crisis. On its website, Nestlé says: "Largely due to local over-exploitation by agriculture, industry and domestic use, the local water table is dropping by up to a metre a year and could affect the supply of milk in our Moga milk district [in Punjab]."

## Industry support

To help farmers like Harpreet Singh cut down costs, GSK has set up education camps where farmers learn how to make their own silage from surplus grass, which can be used as cow feed in the dry season. Even though he's feeling the pressure, Harpreet Singh says this is helping: "It's a lot of effort, but in the summer it means we spend much less on buying fodder."

GSK also produces a magazine offering dairy farmers advice on topics such as water reuse. The initiatives are an effort to keep the dairy business booming: "Our hope is that, through working together, we can help local farmers remain in business, assuring our supply of milk for Horlicks," says a company spokesperson.

Danone, which makes Activia yoghurt, started sourcing milk from Punjab in 2012. Last year, the company set up Punjab 2020, an initiative which educates farmers in ways to improve soil quality by reducing fertiliser use so it retains more water, and maximise milk production in the context of drought. About 7,000 farmers have already gone through the company's Academilk training programme and it has invested €570,000 (£508,000) to expand the programmes to 60 more villages.

As part of Danone's programme, the company provides communal chilling facilities, enabling those with even one or two cows to earn an income without having to invest in expensive coolers. "It is a win-win

situation as it ensures a sustainable livelihood for the farmer while securing the milk supplies for Danone,” said a company spokesperson.

### **The groundwater dilemma**

Vibha Dhawan, senior director at the Energy Resources Institute, says that while companies are helping provide short-term solutions to prevent the dairy industry’s collapse, the urgent problem of groundwater over-extraction still needs to be addressed.

Jaskaran Singh, who supplies milk to Nestlé, says that, without rainfall, farmers in his village rely on groundwater to irrigate their fields and maintain their cows. Groundwater has to be extracted using a diesel-fuelled pump. As water levels drop and farmers have to dig deeper, fuel costs [increase](#). “We’re already drilling 10, 20, 30 feet into the ground,” he explains. “Now the water is very low. In 30 years, we may have to go much deeper, say 100 feet. That’s expensive.”

Cost isn’t the only problem for those relying on groundwater. “As groundwater levels go down,” explains Dhawan, “the risk of arsenic or lead poisoning in the water increases because heavy metals settle lower down. If farmers keep extracting as they have ... the quality of the water, which ultimately goes into our milk, will also reduce.”

While the companies have not yet found solutions to this, Nestlé has started funding research with the International Water Management Institute to understand the causes of groundwater depletion in the area surrounding its factory, in the Moga district. The research – which the company runs alongside wider farmer support programmes, such as cattle feeding, breeding, and veterinary support – includes a six-month pilot project investigating the company’s water footprint from milk.

Dhawan believes the Punjab government is partly to blame for the groundwater crisis as it subsidises electricity for water extraction. Big companies and the government need to start investing in water-wise technology, she says, such as sub-soil irrigation, where pipes supply the soil at root level so less water is lost through evaporation, or precision agriculture methods, where farms are monitored by computer so exact amounts of inputs can be applied.

“These are already technologies that exist, but they need to be made available to farmers,” says Dhawan.

## It's Cheese Time for Dairy Prabhat

MUMBAI, November 10, 2016 /PRNewswire/ --

<http://www.prnewswire.co.in/>

Prabhat Dairy Limited, a leading player in the Indian Dairy Sector has invested in setting up one of the India's largest production lines for cheese at its Shrirampur facility in Ahmednagar district of Maharashtra with an investment of Rs. 140 crore.

Cheese is no longer limited to a gourmet's palate. The friendly neighbourhood street-side cafes and food service outlets are sure to have this dairy-delight on their menu. Cheese has transcended from being an ingredient just for continental European cuisine, to becoming a universal ingredient that is warmly being embraced into Indian cuisine also. Today, Indians no longer just crave melted cheese just on their pizza, garlic breads, burgers and sandwiches, but also on their daily dosas, parathas, and uttapams.

For centuries, India has been a paneer-consuming market, just as the Middle East countries such as Afghanistan and Iran from ancient times. Even today, for many vegetarians, milk, paneer and curd are still the primary sources of protein. However, changing food habits and the rise in food-service outlets across the country has triggered a veritable surge in the demand for cheese in India.

Prabhat Dairy produces cheese strictly from the fresh and unadulterated cow's milk procured directly from dairy farmers. The Company produces mainly three varieties of cheese: mozzarella, cheddar and processed. Prabhat's automated production facility is equipped with advanced technology which ensures operational efficiencies including lower production losses, strict quality control and ability to process large orders. This makes Prabhat a preferred partner for the leading QSR chains with bulk order requirements.

The Indian fast-food market is a major driver for India's cheese industry and is currently worth over Rs. 80-100 bn and growing at 30-35% annually as per the IMARC (International Market Analysis Research and Consulting Group) Report on Dairy sector. Cheese is now the fastest growing segment in the domestic dairy and milk products industry. The economic growth, change in tastes and preferences, and urbanisation of India have resulted in a shift in consumption pattern; away from traditional food commodities, and towards processed and high-value products.

One major dairy food specialist company, Prabhat Dairy Limited, took notice of this trend a few years back and encashed on this emerging business opportunity. In view of this changing consumption habit, the 'dahi to ice-creams' company invested into and successfully started commercial production of cheese in the second quarter of 2015. The manufacturing facility, located in Shrirampur (Maharashtra) is India's third largest plant, capable of manufacturing 20 tonnes of cheese on a daily basis.

Prabhat's state-of-the-art cheese plant is currently ramping up its production to provide institutional and HoReCa (hotels, restaurants and caterers) players with regular volume supplies. Consumption of value-added dairy products like cheese and paneer is still dominated by consumption in the HoReCa channel, with only 35-40% consumption at household level.

Not surprisingly, Prabhat Dairy has witnessed a strong acceptance of its cheese products from a number of QSRs (quick service restaurants) and HoReCA players. While the overall capacity utilisation is at an early stage, the Company has established a well permeated distribution network for its institutional cheese business across Maharashtra, Gujarat, parts of Punjab, Haryana, Delhi, Rajasthan and are entering Bangalore and Hyderabad. The large capacity under its belt gives the company a strong potential upside in capitalizing on the demand growth for cheese from the QSRs and HoReCA players. In cheese, there are only a handful of top domestic players catering to these institutional segments. Amul, Parag, Gopaljee and Shreejee are some amongst the few. With no end in sight of the demand for cheese abating, Prabhat hopes to emerge as a top tier supplier in this marketplace.

Processed cheese as well as mozzarella cheese are gaining traction from the regions of its presence, as apart from the large QSRs there are also a number of mid-scale QSR restaurant chains and standalone fine-dine restaurants to which Prabhat is supplying. Prabhat is witnessing a strong cheese order book from

these standalone food joints as the number of the small-scale restaurateurs is growing. Looking beyond Indian borders, the Company has already started exporting its product to Yum Brand in the Middle East. Going ahead, the cheese business of Prabhat Dairy is expected to witness significant volume growth.

**About Prabhat Dairy:**

Prabhat Dairy Limited is an integrated milk and dairy products company catering to institutional as well as retail customers. Prabhat Dairy's products are sold under its retail consumer brands as well as ingredient products or co-manufactured products to a number of institutional and leading multinational companies. The Company has a wide product range which are manufactured from its state-of-the-art production facilities strategically located in Shrirampur and Navi Mumbai.

For more information, visit: <http://www.prabhatfresh.com/>

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SOURCE Prabhat Dairy Limited

## Rajasthan goes 'expertise-hunting' for farm sector

AMITI SEN

Israel eager to extend partnership with State

[www.thehindubusinessline.com](http://www.thehindubusinessline.com)

**JAIPUR, NOVEMBER 9:**

Rajasthan is reaching out to countries across the globe such as Israel, Australia, New Zealand and Serbia, to gain from expertise in all facets of agriculture — from seed technology to post-production.

“A farm product which perishes in two days in India stays fresh for up to ten days in Israel. We need to adopt such technologies to increase the shelf life of our food items so that they can be sent to far-off markets,” Rajasthan Chief Minister Vasundhara Raje said speaking at the inauguration of the three-day Global Rajasthan Agriculture Meet (GRAM) meet in Jaipur on Wednesday.

At the global meet, an expert from Serbia will share expertise on seed technology, while another from Netherlands will talk about climate change issues and solutions in agriculture. An olive expert from Israel will speak on technologies related to olive cultivation and an Australian expert will give a presentation on dairy and animal husbandry. The event is jointly organised by the Rajasthan government together with industry body FICCI.

Israel, which has already assisted Rajasthan in excelling in a number of farm produce including horticulture, is ready to take the partnership further.

“The President of Israel is visiting India next week and the two main fields in which he wants more engagement are agriculture and water,” pointed out Daniel Carmon, Israel’s Ambassador to India, speaking at the event. Israel shares issues and concerns in agriculture with Rajasthan more than with any other State in India because of the common geographical conditions and is eager to intensify cooperation, Carmon added.

Improving shelf-life of horticulture products, modern warehousing, cold-chain management, agri-logistics and easy access to national and international markets are issues that concern us, Raje said.

“We have tried to get the best countries in various farm technologies, innovations and know-how in the on-going global agriculture meet so that they can share their know-how with us and our farmers can benefit,” she added.

Despite focusing on technology and growth, the fate of a farmer in Rajasthan still depends on the mercy of nature, like in many other parts of the country. For instance, last year due to untimely hail, a number of farmers in the State suffered huge damages leading to alleged suicides. The Prime Minister’s crop insurance scheme launched this year is expected to provide better risk coverage, but it has to be put to test.

Rajasthan already leads in production of more than ten items in India such as barley, maize and seed spices. It was ranked third in the ‘Agricultural Marketing and Farmer Friendly Reforms Index’ of the Niti Aayog this year.

“The Centre will assist the Rajasthan Government 100 per cent in whatever it aspires to do,” promised Parshottam Rupala, Minister of State for Agriculture.

Raje already held meetings with the Ambassadors of Israel, Australia and New Zealand in New Delhi discussing with them the kind of cooperation in the area of farm technology she envisaged with the countries.

(This article was published on November 9, 2016)

## National milk quality survey in six cities

By Express News Service | Published: 05th November 2016 05:17 AM |

Last Updated: 05th November 2016 05:17 AM

<http://www.newindianexpress.com/>



**CHITRADURGA:** The Union Government's mandatory National Milk Quality Survey to assess the quality of milk sold is being undertaken by the Food Safety and Standards Authority of India (FSSAI), which commenced in September this year. It will be taken up on a pilot basis in six cities in the state by December.

A specialised team set up by FSSAI along with the Food Safety and Standards department (FSSD) is monitoring the survey. The survey will be conducted at Mangaluru, Bengaluru, Belagavi, Mysuru, Hubballi and Dharwad, said sources.

FSSD joint director Srinivasa Gowda said, "Milk testing will be conducted on the spot at both organised sector establishments like the Karnataka Milk Federation as well as co-operative milk unions, and in the unorganised sector like private milk companies and with individual farmers, to stop adulteration."

"These tests will be done by trained officials of FSSAI using approved milk testing kits, which are specially designed by AMUL and the Gujarat Co-operative Milk Producers Union", he added.

According to FSSAI sources, these tests have already been completed in Uttar Pradesh, New Delhi and Tamil Nadu and is underway at Goa and Haryana currently. FSSAI along with the FSSD, which is the nodal agency in Karnataka, has identified different areas like the number of milk samples to be collected, locations where milk samples are being collected and the laboratories to which these samples are sent for comprehensive tests.

An online milk tracking system has been put in place to ensure the survey is conducted in a fool-proof manner.

A National Milk Quality Survey will be carried out in more than 120 cities across India, which will be spread over all the states and Union territories, said sources.

# FSSAI rolls out scheme to bolster food testing infrastructure in India

Saturday, 05 November, 2016, 08 : 00 AM [IST]

Our Bureau, New Delhi

<http://www.fnbnews.com/>

The Food Safety and Standards Authority of India (FSSAI) has rolled out a major scheme to strengthen the food testing infrastructure in India at an estimated cost of Rs 482 crore, in the light of the recent observations by the Bombay High Court regarding the urgent need to upgrade food testing laboratories in India.

The Empowered Committee constituted to implement this scheme held its first meeting in New Delhi on November 2, 2016. It was chaired by the FSSAI chairperson. Representatives of various ministries such as the ministry of health and family welfare, the ministry of food processing industries, the Export Inspection Council, the National Accreditation Board for Testing and Calibration Laboratories (NABL) and seven states and Union Territories (UTs) - Goa, Delhi, Karnataka, Kerala, Madhya Pradesh, Tamil Nadu and Punjab - were present.

Proposals from the seven states/UTs were considered for strengthening their food testing infrastructure. Two proposals, from Chandigarh (Punjab) and Calicut (Kerala), were approved in principle. The other States were requested to revise and resubmit their proposals according to the scheme guidelines with mentorship support from FSSAI.

The committee also approved the proposal for strengthening the referral food laboratory at the Central Food Technology Research Institute (CFTRI) through the provision of state-of-the-art equipment and facilities. The introduction of this equipment and facilities would significantly enhance the testing capability of CFTRI for adulteration of honey and pesticide and antibiotic residues in food samples.

Under this scheme, 45 state/UT food testing labs (at least one in each state/UT, with a provision of two labs in larger states) and 14 referral food testing labs will be upgraded to enable them to obtain NABL accreditation.

Sixty-two mobile testing labs will also be established across all states/UTs. There are currently four mobile food testing labs (in Punjab, Gujarat, Kerala and Tamil Nadu), which will serve as models for these mobile testing labs.

Capacity building of the food testing labs is also an important component of this scheme. In addition, a school food and hygiene programme has been envisaged, under which basic food testing labs will be set up in 1,500 schools or colleges across the country to promote a culture of safe and wholesome food.

## Amul Dairy raises milk price paid to farmers

TNN | Nov 5, 2016, 04.00 AM IST  
<http://timesofindia.indiatimes.com/>

Vadodara/ Anand: In an unconventional move, the Kaira District Co-operative Milk Producers Union Ltd (KDCMPUL), popularly known as Amul Dairy, has decided to raise milk prices paid to farmers by Rs 10 per kilo fat. The dairy union has decided to increase milk prices from Rs 580 per kilo fat to Rs 590 per kilo fat with effect from November 11. The move is unusual as during winters which are considered to be a lush season in the dairy industry, dairy unions usually decrease prices paid to its members.

"We have decided to increase the per kilo fat price paid to our member farmers as we are growing good and secondly prices of cattle feed have increased due to increase in raw material prices," said Dr K Rathnam, Amul Dairy's managing director. "Also, since the monsoon wasn't good this year, we are anticipating problems related to fodder and water that farmers are expected to face," he said. Earlier, in June too, the co-operative had increased procurement price paid to farmers from Rs 570 to Rs 580 per kilo fat.

The milk union has 6.35 lakh farmers as members associated with nearly 1,240 village level milk societies in Anand and Kheda districts. The cattle feed price which was earlier Rs 16,885 per metric tonne has recently increased to Rs 17,300 per metric tonne. The dairy is currently witnessing ten percent growth in milk procurement. While its procurement from Gujarat stands at around 19.50 lakh litres per day, from states outside Gujarat including Maharashtra, Punjab and West Bengal it procures nearly 5.5 lakh litres per day.

During the last financial year, it had registered an annual turnover of Rs 4,825 crore while it has set a target of achieving Rs 5,800 crore turnover in the current financial year.

## Amul starts selling food items under Amul Green

The Gujarat Cooperative Milk Marketing Federation has set up a retail outlet and restaurant at Anand near Amul Dairy

Sohini Das | Ahmedabad November 5, 2016 Last Updated at 22:41 IST  
<http://www.business-standard.com/>



*GCMMF Managing Director R S Sodhi*

Dairy cooperative giant Gujarat Cooperative Milk Marketing Federation (GCMMF) has set up a retail outlet and restaurant over a 5,800 square feet area at Anand near Amul Dairy.

Confirming the development, a first for the company, GCMMF managing director R S Sodhi said they had

space available at the spot, and thought of experimenting with the set-up. “It is still a small format there. We would also be selling pulses, spices, grains, oil etc. under the Amul Green brand from that store,” he said.

Sodhi added the restaurant (named Amul Foodland) is a quick service one and it would serve items like burgers and patties. While some see this as Amul’s tryst with modern retail, Sodhi clarified that as of now there were no plans of replicating the same in other regions.

The area was previously rented to a restaurant.

The retail outlet would sell around 6,500 items including food and other products. The cooperative is selling food items like oil, nuts, spices, grains and pulses under the Amul Green brand at the retail outlet. These are being procured in bulk by the cooperative and are packaged and sold under the Amul Green brand. The idea is to procure directly from farmers so that they get better prices for their produce.

Amul officials said on an average a turnover of Rs 8 lakh per day was expected at the retail outlet and restaurant.

GCMMF is India’s largest food products marketing organisation. It registered a 67 per cent rise in its turnover to Rs 23,004 crore during FY16. It has, in fact, grown by 187 per cent in the past six years, which implies a cumulative average growth rate of 19.2 per cent during the period. The group turnover of GCMMF and its constituent member unions, representing unduplicated turnover of all products, sold under the Amul brand was Rs 33,000 crore (\$5 billion).

Rapidly moving up the global rankings, Amul is now ranked as the world’s 13th largest dairy organisation, according to data released by the International Farm Comparison Network. Amul is ranked well ahead of other dairy firms such as Land O’Lakes & Schreiber Foods of the US, Muller of Germany, Groupe Sodiaal of France and Mengniu of China.

Earlier this week, Amul was listed India’s most attractive food and beverage (F&B) brand out of 156 brands in the super category in the “Attractiveness — India’s Most Attractive Brands Report” by TRA Research. It climbed 31 ranks over last year and rose to become India’s 32nd most attractive brand this year, leapfrogging top F&B brands like Pepsi, Nestlé, Britannia and Coca-Cola.

## Indian Dairy Association stresses on need of increased use of Stainless Steel for Dairy industry

Stainless Steel Industry to proactively work with dairy industry to raise the bar  
<http://www.business-standard.com/>

New Delhi, 04th November, 2016: Indian Dairy Association (IDA), the apex body of the dairy industry in the country, stressed on the need to enhance the usage of stainless steel in the dairy industry to ensure safe and healthy dairy products. Taking its commitment ahead to enhance usage of standard products, Bureau of Indian Standards has also released the new standards for design and development of stainless steel milk cans. The seminar on “Stainless Steel in Dairy; to enhance Food Safety”, jointly organised by Indian Stainless Steel Development Association (ISSDA) and Indian Dairy Association in alliance with Jindal Stainless, asserted on the significance of using stainless steel in dairy. Present on the occasion were Dr. G. S. Rajorhia, Vice President- Indian Dairy Association, Shri K. K. Pahuja, President, Indian Stainless Steel Development Association and Mr. Ashok Gupta , Director Jindal Stainless (Hisar) Limited among others.

Hygiene and quality is increasingly becoming a common concern for milk and milk products which is consumed by all age groups. 70% of the milk production pertains to unorganized sector. India being the largest producer of Milk at 146.3 million tonnes/day demands specified guidelines for the segment when it comes to health. The focus of the unorganized sector is more on commercial aspect than the hygiene and health issue which leads to use of unfavorable materials for processing and storage. Various research reports emphasize that use of hazardous materials in dairy industry have serious impact on public health as few materials lead to food contamination. Stainless Steel has emerged as an alternate material for various usages in the dairy sector and approximately 8000-10,000MT of Stainless Steel is used for storage, processing and transportation equipments every year in India. CODEX, the international food standards under WHO, has also recommended stainless steel as a preferred material for storage of food and transportation. CODEX is a collection of internationally recognized standards, codes of practice, guidelines, and other recommendations relating to foods, food production, and food safety.

Commenting on this occasion, Mr. K.K Pahuja, President, ISSDA, “Research demonstrates that compared to other materials, Stainless Steel is the most hygienic and biologically suitable material for milk processing and storage. Due to increased focus on hygiene, quality and food safety standards, usage of stainless steel has grown. Our effort is to increase the pace of adoption of stainless steel in this area to ensure a better public health.”

Dr. G S Rajorhia, Vice President, Indian Dairy Association said, “Stainless Steel is an integral part of dairy industry. Its erosion and corrosion free characteristic is recognized by the dairy industry for total food safety and public health.”

Mr. Ashok Gupta, Director, Jindal Stainless (Hisar) Limited said “We appreciate the efforts taken by regulators to ensure quality standards and with the new guidelines issued by BIS for milk cans , the scenario will change in the dairy sector as well. Taking a cue from these efforts, we, at Jindal stainless along with can producers, have developed a low cost prototype (204 Cu- food grade approved) of Stainless Steel milk can which is not only better in quality but also low cost. As 204Cu is already approved as food grade by BIS under IS 15997(Grade N2), we believe that it can deliver high quality milk at an affordable cost to the end customer.”

*(This story has not been created or edited by Business Standard editorial staff.)*

# Amul India's most attractive food and beverage brand: TRA Research

VIRENDRA PANDIT

<http://www.thehindubusinessline.com/>



## AHMEDABAD, NOV 3:

Amul, “The Taste of India”, has been adjudged as India's most attractive food and beverage (F&B) brand out of a total of 156 brands listed in the Super Category, a report on Thursday said here.

According to “Attractiveness: India’s Most Attractive Brand Report 2016”, Amul climbed 31 ranks over last year and rose to become India's 32nd most attractive brand this year, leapfrogging several top F&B brands namely Pepsi, Nestle, Britannia and Coca-Cola. In the category of ‘dairy products’ under F&B, Amul leads by a wide margin, the other brands that made it to the list are Mother Dairy (all-India 264th rank) and Aavin Dairy (all-India 351st rank).

In all, eight Gujarat-based brand — Fogg, Ajanta, Astral Pipes, Symphony, Fortune (Adani Wilmar), Vadilal, Havmor and Ashima -- and were listed as respective category leaders in the report. TRA Research, a Comniscient Group company, has listed the brands that have successfully elicited the desire-based longing in their audience.

LG has taken the crown of India's most attractive brand in this 2016 study. The South Korea-based Consumer Electronics giant has

taken the 1st rank, moving up from 2nd place last year. Sony ranks 2nd, followed by the two-time reigning champion from the previous reports, Samsung Mobiles, ranking 3rd. Honda makes an entrance at the 4th position. Samsung, in the durables category, leaped from rank 87 in 2015 to rank 5 this time round. The highest-placed wholly-Indian conglomerate in this year’s listings, Bajaj, is India’s 6th most attractive brand.

The second Indian brand, Tata, ranked 7th, which has slipped three places since last year. Maruti Suzuki comes in at rank 8. Airtel shoots up 9 ranks from ranking 18th last year, followed by Nokia, which stands at the 10th position. Godrej (all-India rank 13), Dell (all- India rank 15) and Hewlett Packard (all-India rank 17) made an exit from the top 10 most attractive brands listings this year.

India’s Most Attractive Brands 2016 Report (ISBN: 978-81-932924-1-9), the third in the series, is the result of a primary research-based on the proprietary 36 Traits of Attractiveness Matrix. This year’s research was conducted among 2,338 consumer-influencers across 16 cities, and generated nearly 5 million data points and 10,000 brands, making it the most intensive study on Brand Attractiveness across the globe.

TRA Research, a Comniscient Group company, was conceived in 2008 as an actionable brand insights company dedicated to understanding and analyzing stakeholder's buying propensity, which is made up of its proprietary matrices of Brand Trust and Brand Attractiveness. TRA conducts primary research with consumers and other stakeholders to assist business decisions and give brands insights on solutions to consumer behaviour. It provides brand intelligence reports mined from its 11 million data-points on brand intangibles of 20,000 brands, and also undertakes custom-made studies for brands.

TRA is the publisher of The Brand Trust Report and India's Most Attractive Brands. TRA also publishes the Buying Propensity Index, an economy index that measures the buying sentiment of India.

(This article was published on November 3, 2016)

## Odisha sets Indian farm sector growth agenda

By [Bishnupada Sethi](#)

Posted on November 1, 2016

<http://bigwire.in/>



India's central government has broadened the horizon of agriculture ministry by focusing on farmers' welfare who often face distress due to swings in the monsoon rains.

Farmers' income can be stabilized by strengthening flow from allied activities such as livestock and fisheries.

Eastern state Odisha adopted this changed approach to the farm sector's sustainability over a decade before it surfaced at the central level.

By focusing on income from cultivation as well as of other sources such as farming of animal, non-farm business, wages and fishery activities, it will be possible to double the income of the farmers.

Odisha has done this already. Let's run through how the ground level implementation has yielded results over a decade in the state.

In the Union Budget 2016-17, Finance Minister Arun Jaitley outlined the objective of doubling the farmers' income by the year 2022 to avoid any agrarian distress.

Researchers have also been looking for statistics to find out if there is any instance of doubling farmers' income in any province.

Odisha has been found to be the only province which has doubled the income of farm households during the period from 2003 to 2013.

It is indeed very encouraging trend!

This can be viewed as significant since the average monthly income in real terms dropped in the neighboring states of West Bengal and Bihar during the review period.



Haryana, Andhra Pradesh, Rajasthan, Chhattisgarh, Karnataka, Madhya Pradesh and Tamil Nadu were also able to achieve an increase in real income of the farmers within the period of time.

At an all India level, there were not instances other than Chhattisgarh where average farm income doubled. In states like Bihar, West Bengal, and Jharkhand, there has been a decline in farm income.

But net income from farming of animals rose sharply. The average monthly national net income from animal farming rose by 3.21 times in real terms.

In Odisha, 58% of the rural households are basically agricultural households, heavily dependent on incomes from the farm sector.

They are engaged in various farming activities like cultivation of field crops, horticulture crops, fodder crops, plantation, and livestock farming including poultry.

In 2003, the farmers' average household monthly income in Odisha stood at Rs.1,062 and surged to Rs.4,976 in 2013.

Total income of farmers in Odisha rose 4.7 times in nominal terms. But after adjusting the income of the household using Consumer Price Index (AL), the real income was found to be doubled.

At the national level, income from animal farming rose from Rs.91 to Rs.763 in nominal terms during the period whereas in Odisha – the income rose from Rs.16 to Rs.1,314.

In real terms, the net income from farming of animals in Odisha rose 33.35 times and the next biggest rise in Jharkhand where the income rose 5.88 times.

But such an impressive growth trend has not been observed in any other sector in Odisha.

The net income from cultivation, wages, and non-farm business rose 1.79 times, 1.41 times and 1.54 times respectively in Odisha.

Although 1% of the rural households derive a major source of income exclusively from livestock farming, 54% of the households are engaged in farming of animals as per the survey conducted in the state.

The increase in income from livestock farming mainly contributed to double farm income in Odisha.

The monthly average net income worked out as Rs.2,384 for households engaged in livestock farming in 2013, according to the National Sample Survey (NSS) data.

The share of livestock output such as milk, meat, eggs has risen gradually in the state.

The share of output from livestock which was 13.5% of the total output in agriculture and allied sector during 2004-05 went up to 19% during 2013-14, at the current price.



During the 10-year review period, livestock sector grew at a Compound Annual Growth Rate (CAGR) of 17%. This decadal growth is much higher compared to CAGR of 11% in the farm sector.

This impressive growth in the farm sector and farmers' income was made possible with active intervention of the state government over a decade, much before the central government's recent thrust on the farmers' welfare.

Odisha has been pursuing a lot of measures to make livestock farming as a viable economic activity. The state has adopted a pro-poor Livestock Sector Policy in 2002 and took up the expansion of artificial insemination network since then.

Incentivizing commercial poultry sector has also shown positive impact over the years. In 2005, a total of 2 million birds were there in the commercial layer sector. This has almost doubled in 2015.

Every year, more than 100,000 cross-bred cows are added to the existing bovine population.

The eastern state has set up a number of poultry hatcheries to supply day old chicks to the farmers. It has put in place widespread vaccination and de-worming and genetic improvement programmes.

Under the Odisha Agriculture Policy, a number of initiatives were taken to provide capital investment subsidy for the promotion of broiler and layer farming, goatery and diary projects.

Odisha is probably the only state that provided Rs.7.5 million as capital investment subsidy for the establishment of a poultry layer farm.

Other measures like reimbursement of local tax (VAT) on poultry ingredients like maize and broken rice, waiver of land conversion charges for setting of poultry units, adoption of the Odisha Bovine Breeding Policy and Odisha Poultry Development Policy are some of the positive directions from the provincial government.

The measures and initiatives pursued by the government which resulted in doubling of income in real terms over the period 2003-13 is not a surprise outcome in the country.

Odisha's experience gives a broad understanding of what contributes to the net increase in income of farmers. Other states can follow this tested model of the farm sector growth.



(The author works as Commissioner-cum-Secretary of Fisheries and Animal Resources Development Department, Government of Odisha and can be reached at [bishnupada.sethi@gmail.com](mailto:bishnupada.sethi@gmail.com))

## Zimbabwe raw milk production up

By [Staff Reporter](#) on 11th November 2016

<https://southernafrican.news>

**By Tichaona Kurewa**

VICTORIA FALLS- ZIMBABWE'S raw milk production increased to 48.6 million litres from last year's 42.6 million litres in the first nine months of 2016, boosted by local demand.

Measures instituted by government to control the importation of dairy products have also spurred the demand for locally produced milk and milk products.

As part of current efforts to support the local industry and to lower the import bill, the Zimbabwean government has imposed import controls on various products which are produced locally. Dairy products under Statutory Instrument 64 of 2016 include Cremora Coffee Creamers (which is made by the local Nestle), yoghurts, flavoured milks, dairy juice blends, ice creams, cultured milk and cheese.

Due to increased local demand, the sector has so far this year imported over 400 heifers to boost production while the heifer importation schemes embarked upon in prior years are now bearing fruit.

Milk processors in the country include Dairibord Zimbabwe Limited, Nestle Zimbabwe, DenDairy, and Alpha and Omega, among other small players.

Figures released by the Dairy Services Department in the Ministry of Agriculture Mechanisation and Irrigation show that monthly production is averaging 5.4 million litres compared to an average 4.7 million litres per month produced last year.

The figures show that intake by processors for the period went up 16.9 percent to 43.6 million litres compared to the previous year's intake level of 37.3 million litres.

On the other hand, retailed milk declined 4.98 percent to 5.0 million litres compared to 5.3 million litres same period last year.

Milk production in 2016 is projected at eight percent above the 2015 level of 57.53 million litres largely on investments done in the period 2014 to 2016 which amounts to about US\$21.9 million, with the majority of it channelled towards the importation of heifers and acquisition of new and modern processing plants.

The dairy industry is now operating at above 60 capacity with an estimated 223 registered dairy operators and a total dairy herd of about 26,000 animals.

## China's dairy import figures grow by 20%

4:05 pm - November 11, 2016

<http://www.agriland.ie/>



Richard Halleron



China imported nearly 20% more whole milk powder (WMP) in January-September this year than it did in 2015, totalling around 342,000t, AHDB Dairy has reported.

This is **similar to the annual volumes** imported in 2010-2012 and well below the exceptional levels seen in 2014, when imports hit 670,000t.

The increase appears to be driven by **reduced supplies** in China, rather than rising demand. China's domestic milk production has struggled due to low farmgate prices and high summer temperatures, helping trigger additional demand for imports.

AHDB analysts believe that steady growth in consumer demand is likely to be needed to underpin a more sustainable recovery in import volumes.

Meanwhile, the combined milk production of the world's five main exporting regions continued its decline in August, with the daily milk production equivalent down 0.3% compared with July.

Despite being the start of the new season in the southern hemisphere, New Zealand milk production in August, was **down 2.7%** on August last year.

Sustained low farmgate prices in Europe have meant that EU28 production has fallen in June, July and August on the same months last year.

However, the drop in production appears to finally be stabilising, with a fall of just 0.1% month-on-month in August.

Four of the five key regions have recorded year-on-year decreases for cumulative production from April to August. Argentina was down 16.8%, Australia down 7.3%, New Zealand down 1.1% and the EU28 down 0.3%.

Only the **US has shown an increase**, with production 1.3% higher than the same period in 2015. September production figures are now available for the US and New Zealand. Seasonally adjusted milk production in the US is showing a further increase, and production is now running 2.1% above September last year.

Meanwhile, New Zealand production in September is put at 1.1% up on last year, partly reversing the deficit recorded in August.

## Russian dairy consumption ‘down 3%’, says milk producers’ union

Posted By: News Deskon: November 11, 2016In: Beverage, Dairy, Industries

<http://www.foodbev.com/>

The Russian dairy market is expected to contract by up to 3% this year – its first decline in recent times – according to Soyuzmoloko, the national association that represents the country’s milk producers.

The decline will translate into losses of between 7% and 8% for dairy farmers, according to the union’s executive director, Artem Belov.

The dairy sector accounts for 15-20% of value sales in Russia’s food and beverage industry as a whole, and this could be significantly reduced if dairy consumption continues to fall, Belov warned.

This could lead Russian consumers to turn increasingly to cheaper and more basic forms of dairy, or cut dairy products from their diets entirely.

Belov was quoted by Russian news agency TASS as saying: “A lot of people will switch to cheaper spreads instead of butter, or cheese products instead of cheese. And this is a worrying trend, especially taking into account that Russia, in terms of consumption of dairy products, is far from meeting health standards set by the World Health Organization (WHO).

“According to official statistics, in our country we have 240kg of dairy products per year per capita, although in reality this figure is even lower – about 190kg per capita, while the recommended norms are 325-330kg.”

Soyuzmoloko chairman Andrei Danilenko added that the fall in consumption would exacerbate foreign investors’ reluctance to invest in the Russian dairy industry.

A lack of government support – state subsidies worth RUB 26 billion (€362 million), compared to fiscal contributions from the dairy industry amounting to around RUB 200 billion (€2.79 billion) – coupled with the fact that many dairy production plants in Russia are in desperate need of modernisation, was preventing the country’s dairy producers from capitalising on potential growth.

Half of plants are so outdated that upgrading them doesn't even make sense, Danilenko said.

Soyuzmoloko has developed a plan of action to tackle Russia's faltering dairy sector by introducing financial incentives for investors and either modernising or replacing facilities. It hopes that its recommendations will bring consumers closer to reaching WHO's nutrition guidelines and push demand for dairy back in the right direction.

## Producers Dairy to host job fair

Published on 11/07/2016 - 12:04 pm

Written by Business Journal staff

<http://www.thebusinessjournal.com/>

Producers Dairy is hosting its first job fair in years Wednesday in its quest to hire over two dozen employees.

The third generation family-owned and operated award-winning dairy processor recently expanded its Fresno operations and is looking to fill a variety of positions including commercial drivers, class A and B, route sales representatives, sales representatives, maintenance technicians, machine operators, warehouse team members and information technology staff.

"At Producers, we recognize that our people are our point of differentiation," Brandi Williams, director of human resources, said in a statement. "We're looking for talented individuals with the passion, work-ethic and creativity to help us live our purpose of nourishing lives, which is why we offer the competitive salaries and benefits it takes to attract and retain top talent."

"We nourish the lives of each employee and their families by providing a wonderful place to work and develop themselves both personally and professionally," Williams added. "We nourish their lives just as they nourish the lives of so many by providing healthy, delicious and top quality products."

Job applicants should be prepared for on-site interviews. All candidates must possess a valid high school diploma or GED and all are subject to pre-employment requirements including background and physical screening.

The job fair will be held from 8 a.m. to noon at Producers Dairy Foods located at 250 E. Belmont Ave., on the corner of Palm and Belmont.

# Dairy Alternative Beverages Market: Demand of almond milk is also gaining popularity due to its additional health benefits, 2015 to 2021

<http://www.openpr.com/>

11-10-2016 02:15 PM CET - [Fashion, Lifestyle, Trends](#)

The global dairy alternative beverages market is segmented into various divisions such as soya milk, almond milk, oat milk, coconut milk, hemp milk, hazelnut milk and rice milk. These are some of the major substitutes for milk, which are widely consumed by many individual across the globe. These dairy alternative beverages products are widely distributed through supermarkets, health food stores, pharmacy, convenience stores and e-retailers. Dairy alternative beverages are available in various formulations including flavored, plain, fortified sweetened and unsweetened. The largest sales of dairy alternative beverages products were recorded from supermarkets in 2012.

Dairy alternative beverages are the plant-based milk that processes through nuts, cereals and seeds. Vegans, dairy intolerant and people with milk allergies primarily consume dairy alternative beverages. Dairy alternative beverages are plant-based beverage thus contain low cholesterol levels.

Among the various alternative segment of dairy alternative beverage soya milk contributes the largest share in global dairy alternative beverages markets. The demand of almond milk is also gaining popularity due to its additional health benefits such as high content of vitamins and calcium. This helps in the growth of dairy alternative beverages markets worldwide. Now a days, many people are adopting vegan diet due to their ethical concerns about animal rights, protecting the environment, and help in saving the planet. Veganism has become a lifestyle choice among many individuals and this is gaining popularity day by day. According to People for the Ethical Treatment of Animals (PETA), about 2.5% of the U.S. population is vegan. Such trends would also help in the growth of global dairy alternative beverage market.

Increase in awareness level and rising health concerns issue are the two main issue which leads to drive the global dairy alternative beverages market. The threat of cross-contamination of raw materials is major challenge that limits the growth of dairy alternative beverage market. This acts as a restrain for global dairy alternative beverage market.

Asia Pacific region is the largest market for dairy alternative beverages and growing health concern issue, rising population, increase in disposable income level are some of the key issue which lead to boost the market in many Asia Pacific countries. Countries such as India and China with large population base become the prominent market for the growth of dairy alternative beverages. North America is the second largest market of dairy alternative beverage after Asia Pacific region. In North American countries, the U.S. holds the largest market share of dairy alternative beverage.

After North America, Europe is one of the growing markets of dairy alternative beverage. The global dairy alternative beverage market is expected to witness double-digit growth during the forecasted period 2014-2020.

Request for Sample Report @ [www.persistencemarketresearch.com/samples/3546](http://www.persistencemarketresearch.com/samples/3546)

Some of the major companies operating in global dairy alternative beverages market are Blue Diamond Growers Inc., Earth's Own Food Company Inc., Eden Foods Inc., Freedom Foods Group Ltd., Organic Valley Family of Farms, Grupo Leche Pascual Sa, Living Harvest Foods Inc., Nutriops S.L., OATLY AB, Pacific Natural Foods, Panos Brands LLC, Pureharvest, Sanitarium Health & Wellbeing Company, Stremicks Heritage Foods, Sunopta Inc., The Bridge S.R.L., The Hain Celestial Group Inc., The Whitewave Foods Company, Turtle Mountain Llc and Vitasoy International Holdings Limited.

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# National Dairy Products on verge of collapse after suppliers stage mass exodus

<http://www.abc.net.au/>

11/11/2016

**In a case of deja vu for a list of Victorian farmers, a dairy company appears to be on the verge of collapse after its milk suppliers staged a mass exodus this week.**

National Dairy Products had about 25 suppliers in south west Victoria and Gippsland but farmers have told ABC Rural that, as of Friday, only three remained on the books.

NDP owner Tony Esposito is the same man behind dairy brokering company United Dairy Power, which was sold to a Chinese company and subsequently closed down in April.

When UDP collapsed, Mr Esposito started up the much smaller NDP operation and secured some of the former UDP suppliers.

Farmers have told ABC Rural they are owed up to half a million dollars by the company, which has failed to respond to phone calls about the debts.

When a truck arrived to pick up the milk from Donna Edge's 115 cows in Carpendeit on Thursday, she had a rather alarming message for the driver.

"I said to the driver 'I'm not sure that I want you to take my milk because I'm not sure that I'm going to get paid for it'," she said.

"I'm owed money still, from our autumn-winter payment, and I have been trying to ring the office ... to try and get clarification as to when we were going to get paid.

"They weren't answering their phones, they weren't returning messages, they didn't want to know us suppliers."

Ms Edge is a former UDP supplier, who believed Mr Esposito's new venture would be a success.

"While he owned UDP things were good," she said.

"We trusted him, he'd been good to us in the past and the price that he was offering at the time of starting up the new venture was superior to the other milk companies around."

ABC Rural has sought comment from Mr Esposito.

# Raw milk tasting at homestay farm falls foul of Tasmanian health authorities

By [Rhiana Whitson](#)

11/11/2016



**PHOTO:** [Rowen Carter says tasting milk straight from the cow is a highlight of a stay at his farm.](#) (Supplied: Huon Valley Caravan Park)

**A Tasmanian farmer who demonstrates milking cows to children, giving them a "squirt" from the udder, has fallen foul of health authorities who have warned he is at risk of losing his business if he does not stop.**

Rowen Carter runs the Huon Valley Caravan Park, south of Hobart, which he said is "more than just a caravan park, we are a self-sufficient working farm that wants to teach people where real food comes from".

## What is pasteurisation?

- Process which kills most bacteria in milk by heating to 72C for 15 seconds
- Invented in 1864 by French chemist Louis Pasteur to help winemakers prevent spoilage
- First applied to milk in USA in 1920s, widespread use by 1950s
- Introduced in Australia in late 1950s, now a requirement by law

He offers paying guests homemade Persian fetta made with raw milk, as well as a taste of raw cow's milk straight from the udder's teat.

"I squirt it in their mouth and then afterwards I appear with some plastic cups and show them the more couth way of tasting the fresh milk ... everybody is amazed at how sweet and how nice it is," Mr Carter said.

But his attempt to provide guests with an "old-fashioned farm experience" has landed him in trouble with the Tasmanian Dairy Industry Authority (TDIA).

Mr Carter denied selling raw milk and insisted his guests freely choose to sample it.

"It's been taken away from us, the right to choose," he said.

"I think people should be allowed to taste it ... they don't have to taste it, it's their choice and it's their choice to let their children have a taste."

## Raw milk blamed for death in 2014

The sale of unpasteurised milk products for human consumption is illegal in Australia, however the use of raw milk in various products has continued with [some arguing the risks have been overstated](#).



PHOTO: [A Victorian child died in 2014 after](#)

[drinking a 'bath milk' product](#). (ABC News)

Health authorities and experts have warned raw milk poses a health risk, especially to children. A boy died in 2014 after drinking raw milk, marketed as bath milk, labelled as being for "cosmetic use only".

Following the death, it became mandatory a bittering agent be added to raw milk to discourage human consumption.

Food Standards Australia and New Zealand (FSANZ) said raw milk was more likely to contain deadly bacteria like E. coli, salmonella and listeria.

Dairy Tasmania chief executive officer Mark Smith said his organisation backed the standards.

Bruny Island Cheese maker Nick Haddow started making raw milk cheese in Australia in 2011, because he convinced the state regulators that by cooking the curd and maturing his signature raw milk cheese for six months, bacteria was reduced to a safe level.

But Mr Haddow said those who broke the rules did so at their own peril.

"I'm a passionate advocate for raw milk cheese, but there is a right and wrong way to go about it," he said.

## Future in doubt after infringement notice



PHOTO: [Rowen Carter says the future of his farm home stay business is unclear.](#) (Supplied: Huon Valley Caravan Park)

Mr Carter said the tasting of the milk straight from the cow was a "highlight of the day" for guests.

"There is always the question 'can we do the milk squirting again tomorrow?'"

"Now we have to tell them because it is deemed we are selling the milk, squirting is now no longer.

"How can something that brings so much joy be so wrong?"

Mr Carter asked: "How can a government authority make that decision for you?"

"Is it not a basic human right to be able to choose your food? It has left us wondering if it is all worthwhile or should we even continue with the caravan park as a farm stay?"

The TDIA and Tasmania's Chief Health Officer have been contacted for comment.

## Dairy Crest profits rise but dairy price hike hits butter business

[Harry Yorke](#)  
10 NOVEMBER 2016 • 1:34PM  
<http://www.telegraph.co.uk/>

Dairy Crest Group has said that rising dairy prices and inflationary pressures are expected to eat into the profitability of its butter business in the second-half of the year.

The company's revenue fell 7pc to £190m in the six months to September due to deflationary pressures, despite pre tax profits increasing by 19pc to £19.1m thanks to volume growth in three of its core products.

Dairy Crest said that deflation had resulted in an 8pc decrease in sales in the first half, adding that while the company's two core butter products Country Life and Clover both enjoyed volume growth of 7pc and 8pc in the first six months, forecasts for both brands are now down for the second-half of the year.

The increase in inflation following the Brexit vote has seen milk and dairy prices rise significantly since June, which also presents challenges for the business.

The UK's average farm gate milk price surged by 5.2pc in September according to the Department for Environment, Food and Rural Affairs, resulting in Dairy Crest's milk prices increasing by 20pc and the cost of cream more than doubling in six months.

"We expect this sharp increase in input costs to have an impact on the volumes and profitability of our butters business in the second half of the year," Dairy Crest added.

Mark Allen, group chief executive, said that the company was working closely with suppliers to manage the impact of inflation over the second-half of the year, adding that company expectations remained unchanged.

"The fact that we've said our expectations for the full year remain unchanged reflects the fact that as a business we're used to dealing with inflation and deflation over many years," he said.

However, Mr Allen admitted price increases were "not good news" for consumers, adding that the company would be having conversations with customers in the weeks ahead.

"In order to deal with inflation we have to look at our business to ensure that we are running in the most efficient way possible

"We will discuss with our customers any prices increases that accrue. Retail prices are a matter for the customers, and they don't want to pass the costs onto their consumers."

He said that the current uncertainty over Brexit would have minimal impact on the company's profits in the second half, with a fall in the pound giving their export trade a "small boost".

"Brexit is a neutral situation for us," he added.

Despite challenging market conditions, efforts to restructure the business into a "leaner and more focused organisation" saw strong profit growth and improved cash generation, with cash inflow recorded at £17.5m, up by £27.9m on the same period last year.

As part of its restructuring, Dairy Crest sold its dairies operations to Germany's Muller last year in order to increase focus on Cathedral City, Clover and Country Life and Frylight.



CREDIT: BLOOMBERG

The company added that its cost based would be less than 2015 and overheads had been "significantly reduced" through costs savings in its factories and the implementation of "new, simplified IT systems".

As part of the slim-lining process, the company is disposing of an ex-manufacturing facility in Fenstanton, Cambridgeshire, which will be completed before March 2017.

While core products Country Life, Clover and Frylight all experienced volume growth in the first six months to September, Cathedral City cheese was down by 5pc.

Mr Allen said the cheese's decline in growth volume stemmed from the decision not to promote the product as much as other brands, but added that Dairy Crest anticipated a strong second-half following the product's recent rebranding, along with continued growth for its low-calorie cooking oil Frylight.

Dairy Crest said its full year expectations had not changed, with the board expressing confidence in the business by increasing dividends by 2pc.

City analyst Shore Capital added that the interim results were "a strong start to the year" and an important "milestone" to recognising its targets

## Global food prices on a sugar and dairy high

Meat bucks trend as UN food price index rises 9.1% year-on-year in October

<https://www.ft.com>

**Food prices continued to rise in October, boosted by higher sugar and dairy prices, with the key index up almost a tenth from a year before.**

The food price index published by the UN Food and Agricultural Organisation (FAO) rose 9.1 per cent last month from the same time last year and 0.7 per cent from September.

Stronger agricultural prices are good news for farmers, who have faced declines in profitability of their crops. After four years of declines amid plentiful supplies and bumper harvests, food prices have been steadily rising this year, mainly due to adverse weather with agriculture being a main driver of the rise in commodities prices.

Abdolreza Abbassian, senior economist at the FAO, said that the potential for further price increases was limited because of the good supply prospects. But he added: "Exchange rate fluctuations and uncertainties in financial markets in the aftermath of the US presidential election may well become a defining factor for many months to come."

October's rise was driven primarily by jumps in sugar and dairy prices. Sugar rose 3.4 per cent in October amid reports of production shortfalls in Brazil's key sugar growing region and India's Maharashtra state.

Dairy rose 3.9 per cent from September, led by cheese and butter markets, thanks to demand in the EU. Cereals were also higher, due to firm wheat prices, largely driven by tightening supplies of high quality wheat, while corn was also higher on the back of exports by the US.

Meat prices, however, fell, dropping 1 per cent in October, driven by weaker demand for European pork from importers in China.

Overall food prices are rising despite record grain harvests in the northern hemisphere. Sugar, meat, dairy and vegetable oils are among the sectors where markets have firmed over the past year.

The FAO said grain production for the 2016-17 crop year was forecast at 2.57bn tonnes, up 1.5 per cent from a year before thanks to rising wheat output from Russia, said the FAO.

Russian production is expected to hit a record while favourable weather is also boosting prospects in Kazakhstan. The increase in world wheat and barley production is forecast to more than offset the expected 4.8m tonne decline in the 2016 global corn crop due to bad weather in Brazil, China and the EU.

The FAO said wheat plantings in Russia and Ukraine for the 2017 winter wheat crop were ahead of last year, while farmers in the US were likely to reduce planting for wheat, because of the lower prices and subdued export outlook due to increased competition in international markets.

Corn sowing in Argentina was under way and conducive weather conditions were leading to expansion of 6 per cent from last year's high levels, said the FAO.

On the demand side, lower prices are expected to promote feed use of grains, with feed consumption expected to rise 2.7 per cent in the 2016-17 season. The use of wheat for animal feed, buoyed by ample supplies of lower-quality wheat, is forecast to grow 6.1 per cent to 146.6m tonnes, an all-time high.

## Nestle opens Sri Lanka dairy facility

By [Katy Askew](#) | 8 November 2016

<http://www.just-food.com/>



Nestle Sri Lanka opens new chilling and milk collection facility

[Nestle](#) has marked what it described as a "milestone" in the development of its dairy business in Sri Lanka with the opening of a new facility in Jaffna, expanding its reach in the north of the country.

The new milk chilling plant is located in Urumpirai, a town in the north of Jaffna, itself the capital of Sri Lanka's northern province. Nestle said the facility would enable it to "preserve the quality and freshness" of milk collected in the region. It is equipped with quality testing facilities and farmers will be paid for the quality of milk they supply, the company noted.

Nestle is already the largest private sector milk collector in Sri Lanka, where it produces dairy products under brands including Nespray, Milo and Milkmaid.

"Over the years, we have made intense and determined efforts to procure maximum quantities of fresh milk from the north to help develop the area," said Shivani Hegde, the managing director of the company's local arm, Nestle Lanka. "We remain committed to sourcing fresh milk locally and will continue to provide local consumers with high-quality dairy-based products, enhancing the quality of life and contributing to a healthier future. With the opening of this new milk chilling centre in Urumpirai, we hope to not only increase the supply and quality of milk of our farmers in the north but also provide them [with] a livelihood that is sustainable."

By making payments based on milk quality, Nestle believes it is encouraging farmers to produce more high-quality milk. The company also conducts farmer training and development programmes on issues such as cattle feeding and breeding, animal health, farm management and quality assurance.

## Top 4 Trends Impacting the Global Soy Milk and Cream Market Through 2020: Technavio

November 07, 2016 02:00 PM Eastern Standard Time  
<http://www.businesswire.com/>

LONDON--(BUSINESS WIRE)--Technavio's latest report on the global soy milk and cream market provides an analysis on the most important trends expected to impact the market outlook from 2016-2020. Technavio defines an emerging trend as a factor that has the potential to significantly impact the market and contribute to its growth or decline.

Arushi Thakur, an industry expert for food research at Technavio, says, "Despite the challenge from other plant-based dairy alternatives, the outlook for the global soy milk and cream market is positive due to the increasing consumption from countries in APAC. The market is growing at a CAGR of around 15%, due to new product launches in India, Malaysia, and Indonesia. The players in the market are also targeting key consumer segments and are launching products especially for them."

Request a sample report: <http://www.technavio.com/request-a-sample?report=52540>

*Technavio's sample reports are free of charge and contain multiple sections of the report including the market size and forecast, drivers, challenges, trends, and more.*

The top four emerging trends driving the global soy milk and cream market according to Technavio food and beverage research analysts are:

- Increasing soy production
  - Growing vegan population
  - Packaging innovations
  - Rising guilt-free indulgence in soy desserts
- Increasing soy production

An interesting trend emerging in the market is the increase in soy production around the globe. In 2015, the total global soy production was about 313.3 million tons. The production is estimated to reach about 323.7 million tons in 2016, an increase of about 3.33% compared to 2015. The US was the largest producer of soy in 2015, with a production of about 106.9 million tons.

Growing vegan population

The vegan diet strongly favors animal rights, and vegan consumers do not consume and use any animal product such as eggs, dairy products, honey, leather, fur, silk, wool, cosmetics, and soaps derived from animal products.

This can positively affect the market as vegan consumers would be on the lookout for more plant-based milk and cream alternatives. People are adopting vegan diets as a result of ethical concerns towards animals and for a better environment. According to People for the Ethical Treatment of Animals (PETA), about 2.5% of the US population followed a vegan diet in 2015. It is also estimated that nearly 12% of the UK population and 10% of the population in Sweden follow a vegan diet.

Nowadays, veganism has become a style of living and philosophy. “Furthermore, people perceive a vegan diet to be healthy and prefer consuming dairy alternatives such as soy milk, almond milk, and rice milk and their products. Vegan diet followers and healthy diet adopters are one of the major target consumers of soy milk and cream,” says Arushi.

#### Packaging innovations

Good packaging increases the shelf life of products and also serves as a platform for marketing of the products. Attractive packaging will increase the visibility of the product by attracting the attention of consumers. Tetra Pack has rolled out a new packaging format under the name Tetra Evero. The packaging is designed with a unique D-Shape, and the producers can take advantage of its 360° printing surface for advertisements. It is useful for storing liquid products including soy milk and others.

#### Rising guilt-free indulgence in soy desserts

Soy desserts are byproducts of soy milk. A higher demand for soy desserts is a result of increased indulgence and luxurious consumption. The demand for on-the-go snacks is also contributing to the demand for desserts. There is a significant increase in the sales of chocolate-based soy desserts such as Belsoy Dessert Dark Choco because they are 100% plant-based, naturally lactose-free, and free from natural colors and preservatives.

Consumption of these products is usually unaffected by the prevailing economic conditions. Premium varieties in unique flavors are also much in demand and drive the soy desserts market. Therefore, growing sales of soy desserts will augment the soy milk market during the forecast period.

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Technavio is a leading global technology research and advisory company. The company develops over 2000 pieces of research every year, covering more than 500 technologies across 80 countries. Technavio has about 300 analysts globally who specialize in customized consulting and business research assignments across the latest leading edge technologies.

Technavio analysts employ primary as well as secondary research techniques to ascertain the size and vendor landscape in a range of markets. Analysts obtain information using a combination of bottom-up and top-down approaches, besides using in-house market modeling tools and proprietary databases. They corroborate this data with the data obtained from various market participants and stakeholders across the value chain, including vendors, service providers, distributors, re-sellers, and end-users.

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## Good game plan a must for farmers in 2017

By [Other News](#) -

November 7, 2016

<http://www.farmanddairy.com/>

SALEM, Ohio — As farmers prepare for another year of tight profit margins, they'll need to carefully consider all of their input and operating costs. During a talk at the 2016 [Farm Science Review](#), OSU Extension Educator Chris Bruynis, of Ross County, gave producers some helpful tips as they prepare for the new year.

“We’re now in that period that we’re going to have to adjust to the new norm, which is lower crop prices, lower milk prices, and lower cattle prices in general,” he said.

*Here are some of his suggestions:*

### 1. Know your financial situation:

Get a balance sheet together and know your working capital, your farm’s risk capacity, and how much money your family needs to live on.

### 2. Understand your soil fertility levels:

Know your soil fertility levels and whether something truly needs added — the location and how much. Consider the cost of different corn seeds, but don’t do something that “would really dig into yield.”



Healthy soil. (Farm and Dairy file photo)

### **3. Diversify your enterprise:**

Consider another enterprise, such as switching more corn acres to soybeans. Do a better job of marketing your grain and lock in prices when they're favorable. Also consider selling any equipment that you no longer use, or that you do not use enough to be productive.

### **4. Renegotiate rentals:**

Negotiate a lower cash rent, but remember, this could be difficult since many property owners have seen increases in their property taxes. If landowners won't budge, and you can't be profitable at the current rental rate, you may have to part with some ground.

### **5. Add additional revenue streams:**

Consider taking a part-time job, possibly even ag-related or using your existing farm equipment to offer an additional service.

### **6. Talk with your lender:**

Be up front and honest about your situation. Make sure your lender knows your game plan for survival.

### **7. Work with your neighbors:**

You might be able to share some equipment, such as your sprayer, combine, or truck. But remember to make a good plan that works for all parties, so the equipment will be available for each party when needed.

### **8. Preserve equity:**

While no one likes to think about quitting farming, farmers cannot sustain a continued loss of equity. They need to consider their age and how likely they are to recover their losses. If you're a young farmer of 35 or so, there might be sufficient time to recoup your losses, but if you're into your 60s, it might be a good time to consider retirement and rent your land out to another operator. You can ensure yourself a steady flow of rental income, and if grain prices improve later, you can always consider farming your own ground again.

## Dairy farmer discusses milk production with Rotary members

- From Staff Reports  
news@rockdalecitizen.com

Nov 5, 2016

<http://www.rockdalecitizen.com/>

Heck Davis is similar in many ways to the members of the Rockdale County Rotary Club he spoke with on Oct. 26 – working hard and taking pride in providing a quality product to customers. But unlike the typical local business, Davis’ most important asset is cows and his product is milk. Davis and his family are dairy farmers.

The Davis family owns Green Glades Farm Inc. outside of Eatonton. Every day, twice a day, a herd of 285 cows are milk. On the 450-acre farm, they also have a herd of about 200-300 calves and raise corn, sweet corn, wheat and rye grass. To dairy farmers, the ultimate reward is knowing their actions help create a healthy, abundant and affordable food supply for the community.

“We love what we do,” Davis said. “Dairy farmers across Georgia differ in how many cows we milk and some of the ways we farm so that our methods work well for the environment, but we all share a passion for what we do. It is our responsibility to take care of the natural resources and animals on our farm, and we take that responsibility with a great deal of pride and commitment.”

The family lives and works on the farm and that is a strong incentive for protecting the land, water and air. In addition, cow comfort and health are carefully monitored every day. Davis works with a dairy animal nutritionist to formulate the best diets for the cows, and veterinarians come to the farm regularly to check on the animals’ health. Every day, advancements in animal care and milk quality methods result in better milk. “What we do on our farm is the starting point for safe and nutritious dairy foods in the supermarket,” Davis said. “Because of this commitment at the dairy farm, people can count on wholesome dairy foods.”

## Students visit farms during Dairy Challenge

<http://www.troyrecord.com/>

POSTED: 05/11/16, 2:28 PM

SARATOGA SPRINGS >> Courtney Banach didn’t grow up around cows and her mother hoped a taste of hard farm work would squelch her daughter’s interest in agriculture.

Instead, she’s pursuing animal science at the University of Vermont and is one of 120 college students from Maine to Ohio who took part in a three-day Northeast Dairy Challenge, which included visits to area farms.

On Saturday, they toured Kings Ransom Farm and its new milk bottling operation, King Brothers Dairy, in Northumberland.

“I told my mom when I was 11 I wanted to be a farmer,” said Banach, of South Burlington, Vt. “She put me in a week-long Farm Camp, through a local farm, thinking that would deter me. I had to milk cows and move them to pastures.”

Banach liked it so much that she went back to volunteer after school until she was old enough to become a full-time, hired worker.

“When I finish college I’d like to do herdsmen work,” she said. “So breeding, hoof trimming, vaccination, group movements — kind of the management side of the farm.”

Dairy Challenge brings students together from various schools who are selected at random to work together on problem-solving teams. On Saturday evening, they made presentations to industry experts at the Queensbury Hotel in Glens Falls.

Banach’s team put together a proposal about how to help Ideal Dairy in Kingsbury, which is planning a major expansion of its milking herd. Students visited the dairy on Friday, along with Welcome Stock and Toolite farms in Northumberland and Granville, respectively.

“This is my third time coming to a Dairy Challenge event,” Banach said. “I think it’s really great because it gives you a chance to apply what you’ve learned in the classroom. It’s a really good educational experience; also the networking with industry experts. Making connections now is really beneficial.”

Tom Winters, of Medina, between Rochester and Buffalo, is studying agribusiness at Alfred State College.

“This helps you see what other people are doing, develops leadership skills within your group and teaches you how to work with other people,” he said.

Many of these same students will take part in a National Dairy Challenge next spring in California.

A group of Schuylerville High School students enrolled in Future Farmers of America toured Kings Ransom Farm on Saturday, too.

In many industries, companies won’t open their doors to visitors or they’ll limit the amount of information they share for competitive reasons. However, dairies take the opposite approach because they realize the importance of exposing young people to opportunities and developing the next generation of industry leaders, said Jeff King, Kings Ransom Farm co-owner.

Some day, one of these young people might solve a problem at his farm.

“It’s about helping the future of the industry,” King said. “A student today might become a service provider for a company that sells us a service later on. I might help develop them. In turn, maybe down the road they’re able to help my business out, too.”

# Big data can help in feed intake predictions

<http://www.allaboutfeed.net/>

News 4 Nov 2016

**Big data applications are likely to contribute to more efficient agro-food chains, and so likely to contribute to a more sustainable agriculture. It can also help in predicting roughage intake more precisely.**

According to Wageningen University & Research, agriculture has to produce more food, feed, fuel, flowers, etc., with less use of natural resources and with less adverse side effects on the environment and society. The expectations are that precision agriculture and the acronym smart farming will be necessary to achieve this.

## Learning models feed intake cows

Wageningen Research, TNO and NLR (Netherlands Aerospace Centre) worked together to explore the field of Big Data and concepts like Smart Farming. In a new report, (literature review and dairy farm case study) they describe a study on the application of big data technology in the context of smart farming in agriculture. The project looked at several aspects within the milk production chain, among which roughage and grass intake and the way this can be put into (learning) models.

## A model to prediction roughage intake of cows

They were able to construct an effective machine learning model to predict the roughage intake of cows with a precision of approximately 7.6%. This means that it is possible to predict rather accurately the feed intake of cows that do not have labour expensive systems to monitor the roughage intake. "These models form a good basis to develop proxies for daily roughage intake of individual dairy cows, based on routinely available data on the dairy farm. These proxies for daily roughage intake can be used in management modules to optimise the feed management of individual or groups of dairy cows or be aggregate to predict full lactation intake, when no or partial feed intake records are available," according to the authors of the report.

## Design of suitable business models

Wageningen researchers state that the promise of Big Data in agriculture is alluring, but several challenges have to be addressed for increased uptake of Big Data applications. Although there are certainly technical issues to be resolved the authors recommend to focus on the governance issues that they identified and design suitable business models because these are currently the most inhibiting factors. Additionally, the benefits of Big Data applications have to be demonstrated to end users by independent researchers.



[Emmy Koeleman](#)

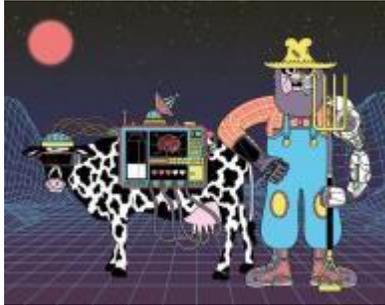
Editor: All About Feed & Dairy Global

## These Cows Will Text You When They're in Heat

Dairy farmers are using sensors in cows' stomachs to track the health of the herd.

November 4, 2016 — 10:30 AM IST

<http://www.bloomberg.com/>



Every morning, Austin Knowles pulls on his rubber boots, dodges the manure in his farmyard, and opens the creaky wooden door of his 200-year-old barn on a hilltop in Worcestershire, 130 miles northwest of London. Inside, his dairy cows are busy uploading data to the cloud. Each animal has a half-pound sensor in her stomach, which is linked via Wi-Fi to a service that helps Knowles analyze the health and well-being of his herd. If an animal falls ill, the system e-mails the vet days before the cow is visibly sick. When one is about to go into heat, Knowles and his staff get a text message. “Cows are a lot of work,” the third-generation farmer says over tea at the rough-hewn wooden table in his kitchen. “The technology takes the edge off a bit.”

Knowles's Hollings Hill is one of 350 farms in almost two dozen countries using technology from Austrian startup SmaXtec to monitor their livestock. It works like this: A weighted sensor about the size of a hot dog is inserted into a cow's throat with a metal rod and lodges in the rumen, the first of a cow's four stomachs. The device—equipped with a battery that lasts four years, about the length of a dairy cow's productive life—transmits up-to-the-minute data such as the pH of her stomach, her temperature, how much she moves, and the amount of water she's consumed. A base station in the barn picks up the signals, adds readings on ambient temperature and humidity, and then uploads all the information to the cloud.



- The half-pound, 4-inch-long sensor lodges in the rumen, the first of a cow's four stomachs.

Source: SmaXtec

Since SmaXtec started offering the service six years ago, its devices have been implanted in 15,000 cows. Devices like SmaXtec's sensors offer farmers and vets an early warning system that can reduce infectious diseases in their livestock, according to an independent study by the University of Cambridge. "It's easier, after all, to look at the situation from inside the cow than in the lab," says SmaXtec co-founder Stefan Rosenkranz. Although the company's gear can't yet tell farmers exactly what maladies might be afflicting their livestock, its temperature alarms "make you go and check earlier than you otherwise would," says Helen Hollingsworth, a veterinary nurse employed by Molecare Veterinary Services, SmaXtec's distributor in the U.K. "If you can detect illness early, you can start antibiotics earlier and ultimately use less."

Molecare also markets its own cloud-based technology to British farmers to allow them to track animals across an entire farm. One program Knowles is considering would look at data from scales at the water troughs to determine how quickly his 450 cows are growing. Another taps sensors placed in the field to measure how much they're eating. And one that's being tested uses temperature and humidity gauges to monitor the health of chickens. Farmers can share the data with retailers to give corporate customers a window into the quality of the product they're buying, says Keith Evans, who oversees the sensor technology at Molecare. "The idea is to give automated data in real time to everybody in the supply chain," Evans says.

SmaXtec says that with 90 million cattle on dairy farms around the world, the market for the sensors is huge. It's targeting industrial operations in China, the Middle East, and the U.S., where herds of 25,000 aren't unusual. The company or its distributors typically pay the upfront costs of deploying the gear and building the network—about \$600, plus \$75 to \$400 per cow—and charge around \$10 a month per cow for the service.

Knowles says the SmaXtec gear saves him the trouble of pulling his cows out of the herd and placing them in a gigantic metal vice called a cattle crush, where a vet checks their vitals. The sensors can also predict with 95 percent accuracy when a cow will give birth, allowing farmers to maximize milk production by spacing pregnancies as close together as possible. "The crux of any dairy farm is fertility," Knowles says as he peruses graphs and charts on a laptop giving him details of his cows' health and milk output. "We are trying to have a calf per cow every year. Everything we do on the farm comes back to that."

***The bottom line:*** An Austrian startup's sensors are in the stomachs of 15,000 cows in Britain to help farmers better monitor their herds.

## Sacred cow: A milking machine?

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<http://www.deccanchronicle.com/>

Breeding genetic diversity of livestock with multiple uses has been ignored by the industrial animal breeding 'factories'.



Ecologically, the cow has been central to Indian civilisation.

Ecologically, the cow has been central to Indian civilisation. The integration of livestock in farming has been the secret behind India's centuries-old sustainable agriculture systems. Farm animals sustain our soils by providing soil fertility. They sustain the agrarian economy with renewable energy. As K.M. Munshi, India's first minister of agriculture after Independence, and a dear friend of my late parents, wrote: "The Mother Cow and Nandi are not worshipped in vain. They are the primeval agents who enrich the soil — nature's great land transformers — who supply organic matter, which, after treatment, becomes nutrient matter of the greatest importance. In India, tradition, religious sentiment and economic needs have tried to maintain a cattle population large enough to maintain the cycle, only if we know it."

Like our seeds, India's animal breeds were bred for diversity — diversity of breeds and functions. The best cattle breeds of the world have been bred in India — the Sahiwal, Red Sindhi, Rathi, Tharparkar, Hariana, Ongole, Kankrej and Gir. Indian breeds are multi-taskers. Both the female and male offspring have value. The cow provided nutrition through dairy, and the bullocks provided energy for transport and farm operations and this sophisticated breeding was done by indigenous experts.

Just as farmers breeding of seeds, and crop diversity, has been ignored by industrial crop breeding, breeding genetic diversity of livestock with multiple uses has been ignored by the industrial animal breeding "factories", which have reduced cows and their progeny to milk machines and meat machines. The industrial model, based on what I have called the Monocultures of the Mind, breeds uniformity and one dimensionality, it breeds standardisation and mediocracy. Indigenous breeds in India use 29 per cent of the organic matter provided to them compared to only nine per cent in US industrial farms. Indian cattle use 22 per cent of the energy, compared to only seven per cent in the US. India's holy cow is much more valued, and valuable than "pounds of flesh".

Traditionally cows and farm animals have used organic matter — like straw — while the grain goes to human consumption. The Green Revolution dwarf varieties deprived animals of their food, and the aata from these varieties being tasteless — deprived people. Most grain from industrial crop production is now used as animal feed, depriving humans of food. A new competition has been created between food for animals and food for humans. Seventy-five per cent of corn grown in India is for animal feed. In addition, we imported 500,000 tonnes of corn in 2016.

Yet, the highly efficient, sustainable indigenous food system, based on the multiple uses of crops and cattle, has been dismantled in the name of “efficiency” and “productivity”. Integration has been replaced by fragmentation and separation. Dynamic complementarity has been replaced by a forced one-way competition. Cyclical and circular processes — based on mutuality and the law of return — have been replaced by linearity, violence and exploitation. India’s multidimensional, multifunctional systems have been replaced by single commodity output systems using high inputs.

The sacred cow has thus been reduced to a milk machine. As Shanti George observes: “The trouble is that when dairy planners look at the cow, they just see her udder; though there is much more to her. They equate cattle only with milk, and do not consider other livestock produce — draught power, dung for fertiliser and fuel, hides, skins, horn and hooves.” In the industrial-exploitative paradigm, of the cow as a milk machine, our superefficient and resilient Indian breeds are declared (quantitatively) inefficient, sans qualitative assessment. The pure indigenous breeds are replaced by homogenised hybrids of the Zebu cow, with foreign branded strains like the Jersey, Holstein, Friesian, Red Dane and Brown Swiss, supposedly to improve the Zebu’s dairy “productivity”.

Other contributions of farm animals are forgotten in the mechanistic reductionism paradigm. When I wrote *Staying Alive*, more than two-thirds of the energy needs of rural India were met by 80 million work animals, of which 70 million were the male progeny of indigenous breeds. When I worked in the IIM Bangalore in the late 1970s, N.S. Ramaswamy was the director. He was famously known as “Cartman” — for his work on the contributions of animals to India’s economy. According to him, animals ploughed 100 million hectares and hauled 25 billion km tonnes of freight in 15 million ox-carts. He estimated that 74 million oxen and eight million buffaloes make available 40 million horsepower of energy (worth `100 billion per year). Animal energy saves six million tonnes of petroleum (worth `120 billion per year). The asset value of our pashu dhan is Rs 250 billion. The replacement of animal energy by mechanised systems would require an investment of \$200-\$300 billion.

Just when we need our farm animals to play an important role in meeting the UN Sustainable Development Goals to which India is committed, we are destroying our animal wealth, and with it the ecological and economic contributions they make. For the first time in the history of Indian agriculture, the male calves have been declared useless. And this is what has led to the explosion of slaughterhouses, and the “pink revolution” of meat and beef exports. The livestock policy — made as part of the World Bank-driven structural adjustment policies — to promote the meat industry states “religious sentiments against cattle slaughter seem to spill over also on buffaloes and prevent the utilisation of a large number of surplus male calves”. India today is the top beef exporter of the world. Between 2009-10 and 2014-15 alone buffalo meat exports grew more than fourfold, from 4.9 lakh tonnes to 13.14 lakh tonnes; from \$1163.54 million to \$4068.64 million. But these export earnings hide the losses to the soil fertility, the nutrition of children and lost renewable energy.

Animals on a farm sustain the soil, and lives and livelihoods of small farmers. As the Viniyog Parivar calculated, in the case of the foreign-owned Al Kabeer slaughterhouse in Andhra Pradesh, if the animals had been allowed to live, they would save foreign exchange worth Rs 910.25 crore. Just in terms of fertility of soil, the slaughtered farm animals would have provided Rs 36.41 crore of nitrogen, phosphorous, potassium (NPK), for which we pay the “fertiliser” industry. We are not just exporting our animal wealth. We are exporting our soil and water. We are trading away our future.

***The writer is the executive director of the Navdanya Trust***

# Using rumination sensors to monitor heat stress in dairy cows

By Mathew M. Haan, Penn State Extension November 02, 2016 | 12:57 pm EDT

<http://www.dairyherd.com/>



Temperature Humidity Index (THI) combines air temperature and relative humidity to calculate an index value to better represent the environmental conditions a cow or other animal feels. Dairy cows begin to experience heat stress when THI exceeds 68 (Figure 1). When cows experience heat stress, behavioral (decreased feed intake, increased standing time) and physiological (increased respiration, decreased rumination) changes occur in an attempt to mitigate the stress. Even low levels of heat stress can negatively impact milk production and reproductive performance in dairy cows. As heat stress levels increase, the impacts on cow performance and health become more extreme. The effect of THI on rumination and milk production were looked at on a dairy farm in Southeastern Pennsylvania; the results are presented below.

DAIRY COW TEMPERATURE HUMIDITY INDEX (THI)																			
Temp °F	Humidity %																		
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
72	64	65	65	65	66	66	67	67	67	68	68	69	69	69	70	70	70	71	71
74	65	66	66	67	67	67	68	68	69	69	70	70	70	71	71	72	72	73	73
76	66	67	67	68	68	69	69	70	70	71	71	72	72	73	73	74	74	75	75
78	67	68	68	69	69	70	70	71	71	72	72	73	73	74	74	75	75	76	76
80	68	69	69	70	70	71	72	72	73	74	75	75	76	76	77	78	78	79	79
82	69	69	70	70	71	72	73	73	74	75	75	76	77	77	78	79	79	80	80
84	70	70	71	72	73	73	74	75	75	76	77	78	78	79	80	80	81	82	82
86	71	71	72	73	74	74	75	76	77	78	78	79	80	81	81	82	83	84	84
88	72	72	73	74	75	76	76	77	78	79	80	81	81	82	83	84	85	86	86
90	72	73	74	75	76	77	78	79	79	80	81	82	83	84	85	86	87	88	88
92	73	74	75	76	77	78	79	80	81	82	83	84	85	85	86	87	88	89	90
94	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
96	75	76	77	78	79	80	81	82	83	85	86	87	88	89	90	91	92	93	94
98	76	77	78	80	80	82	83	83	85	86	87	88	89	90	91	92	93	94	95
100	77	78	79	81	82	83	84	85	86	87	88	90	91	92	93	94	95	96	98
102	78	79	80	82	83	84	85	86	87	89	90	91	92	94	95	96	97	98	100
104	79	80	81	83	84	85	86	88	89	90	91	93	94	95	96	98	99	100	101
106	80	81	82	84	85	87	88	89	90	91	93	94	95	97	98	99	101	102	103
108	81	82	83	85	86	88	89	90	92	93	94	96	97	98	100	101	103	104	105
110	82	83	84	86	87	89	90	91	93	95	96	97	99	100	101	103	104	106	107

Stress threshold for lactating cows.  
 Mild stress for lactating cows.  
 Moderate stress for lactating cows.  
 Severe stress, life threatening conditions for lactating cows.

Figure adapted from - <http://www.thedairysite.com/articles/3712/an-introduction-into-heat-stress-in-dairy-cows/>

### Case Farm and Data Collection

An average of 104 lactating Holstein cows were housed in a tunnel ventilated tie-stall barn. Over the past 12 months, cows averaged 92.4 pounds of milk per day with 3.8% fat and 3.0% protein based on DHIA data. Rumination data was collected using a Heatime HR Stanchion Barn activity system (SCR by Allflex). Temperature Humidity Index (THI) was calculated from temperature and humidity sensors located in the barn and integrated with the activity system software. Daily milk production was calculated from every other day bulk tank milk weights; bulk tank weights were divided by 104 cows and two days of milk in the bulk tank per pick-up. Rumination, THI, and milk production data were collected from July 7 through October 15, 2016.

### Case Farm Results

During the course of the study, maximum daily THI ranged from 60 to 85, minimum daily THI ranged from 46 to 75, and average daily rumination ranged from 311 to 497 minutes per day (Figure 2). In general dairy cows will spend about 8 hours (480 minutes) per day ruminating. Cattle experienced at least some level of heat stress every day from July 7 through September 24. Through the end of September and even into October there were days when the THI passed the level that cattle experience heat stress. The impact of heat stress on rumination is clearly shown in Figure 2, especially for a period in mid-August when even the minimum THI value for the day remained above the heat stress threshold. Regression analysis of rumination versus THI showed that for every one point increase in maximum daily THI, dairy cows spent a little over 6 minutes less time ruminating each day (Figure 3). This one-point increase in maximum daily THI also resulted in a 0.6-pound decrease in milk production per cow per day (Figure 4).

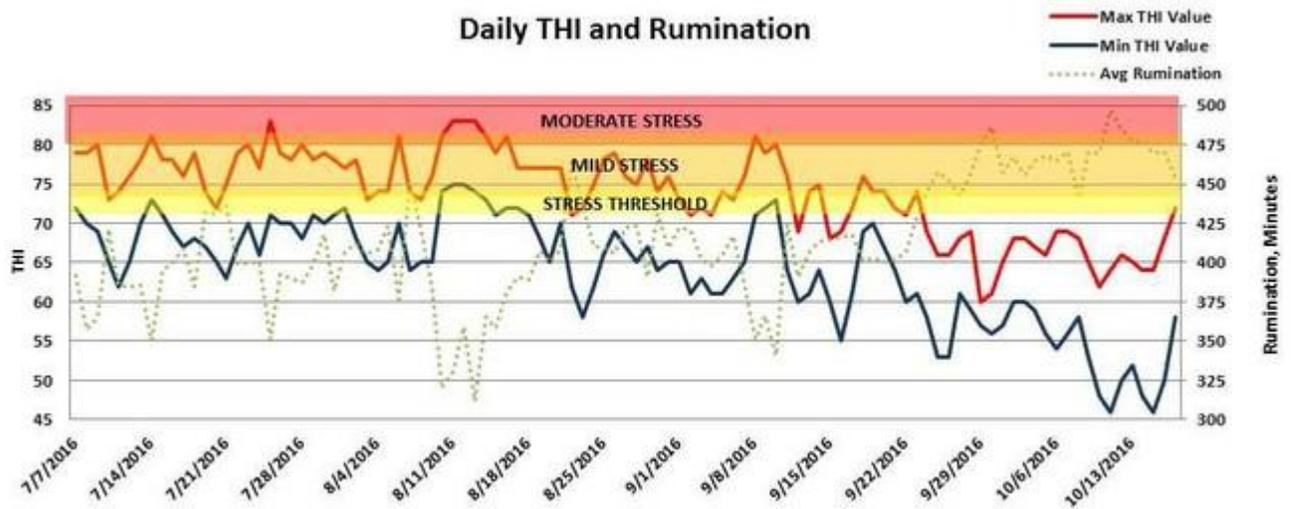


Figure 2. Temperature Humidity Index (THI) and rumination of dairy cows in a Southeastern Pennsylvania herd from July 7 through October 15, 2016.

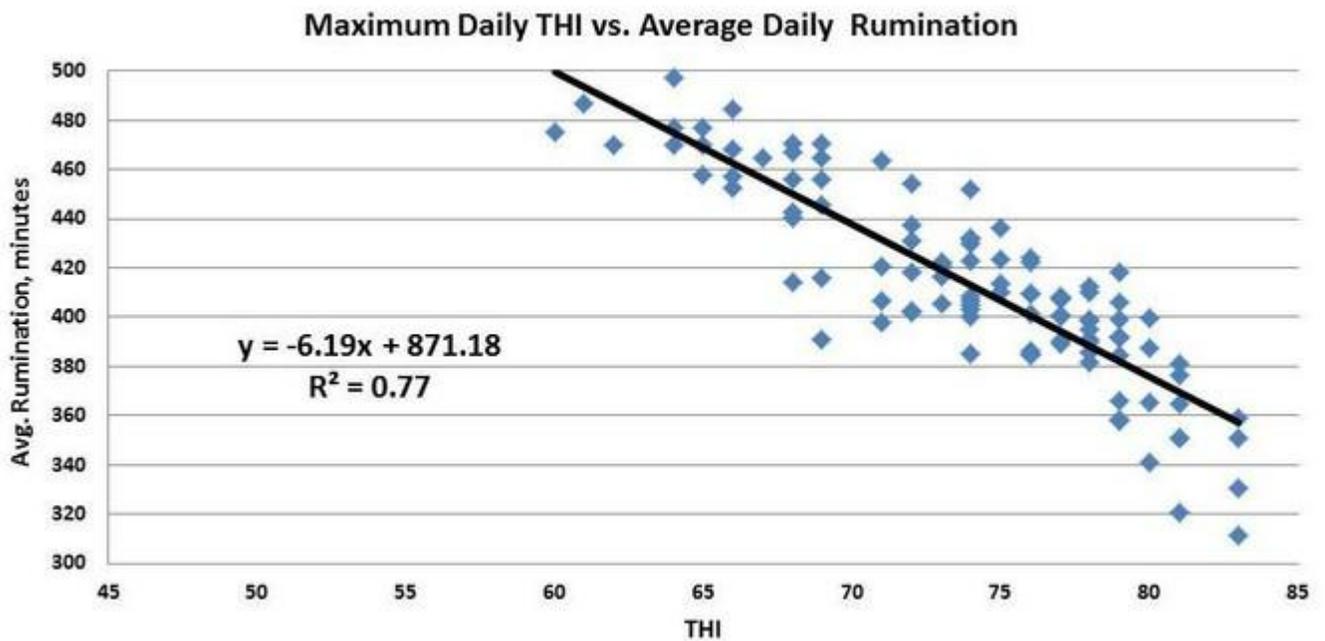


Figure 3. Regression of maximum daily Temperature Humidity Index (THI) and average rumination time of dairy cows in a Southeastern Pennsylvania herd from July 7 through October 15, 2016.

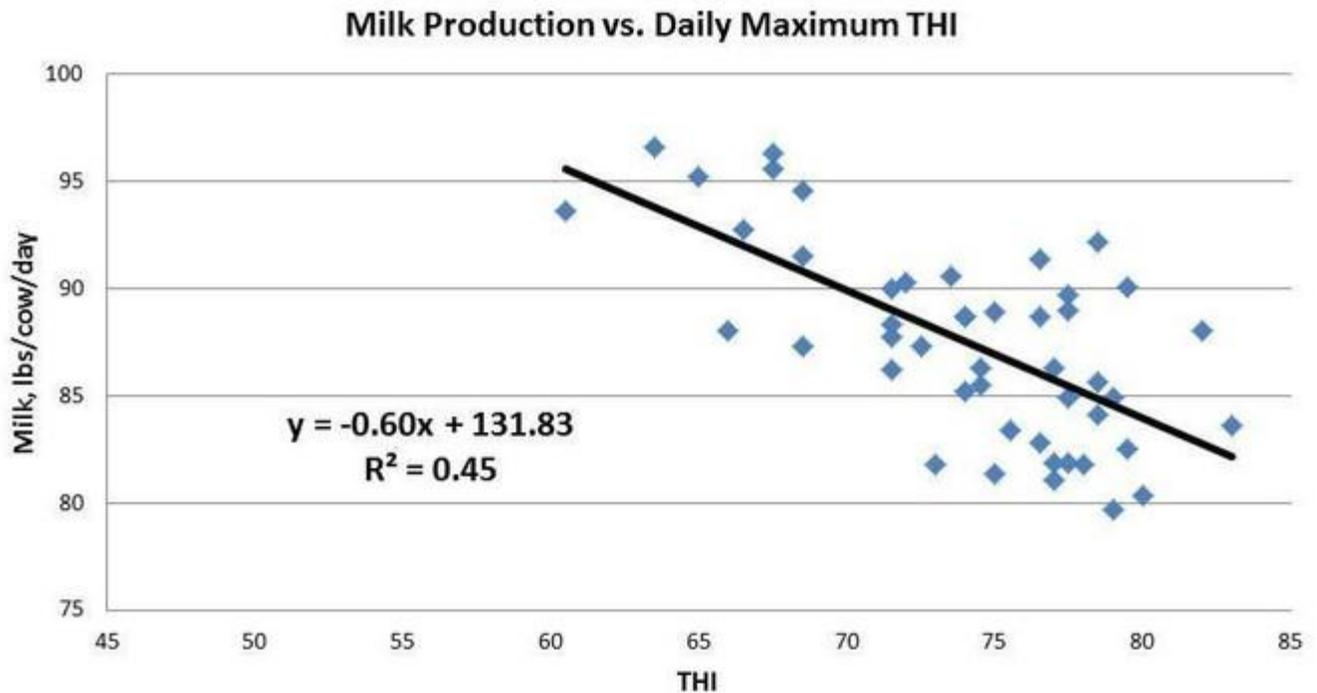


Figure 4. Regression of maximum daily Temperature Humidity Index (THI) and average daily milk production of cows in a Southeastern Pennsylvania herd from July 7 through October 15, 2016.

This article has focused on the use of rumination sensors and weather station data to demonstrate the effects of heat stress in dairy cattle. However, the more important thing to take away is that all the data presented in this paper were collected with technologies that are commercially available to dairy farmers today. These and other precision dairy technologies offer a wide range of detailed information that impact productivity, efficiency, and profitability on the dairy farm. In the current case farm example, the dairy farmer knows the impact of heat stress on his cows in his facilities, allowing him to make a more informed decision about potential heat abatement methods. Producers, nutritionists, veterinarians, and other consultants within the dairy industry could make better use of the data already being generated on farms by existing technologies and should be prepared to take advantage of new technologies as they become available.