

FEBRUARY 2023

MONTHLY BILINGUAL

INR 300

DAIRY PLANNER

HARBIL/2004/22481

Title Code HARBIL00698

Vol. 20 | No. 02 | February - 2023



UNVEILING BUDGET 2023



THE NEW STANDARD

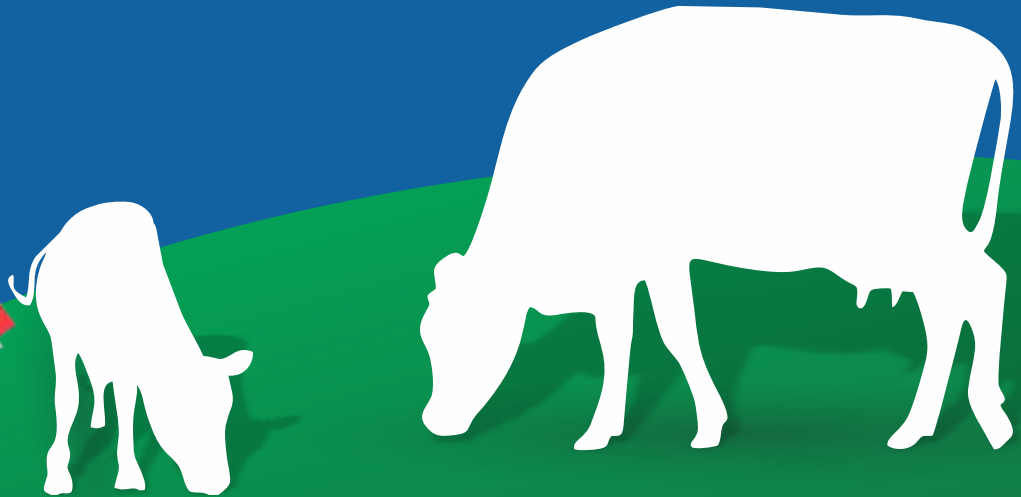
IN DEVELOPING TODAY'S BUSINESS

BOOST YOUR BRAND VISIBILITY with us

With Over
45,000+
Readership

Advertise with us
Today
See your business
Growing

The Magazine Covers all the latest news, articles, Product Launches, CSR, Press Releases, New Appointments, Latest Developments & a complete industrial overview.



Pixie Consulting Solutions Ltd.

C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol
Pump, KARNAL - 132001 (Haryana) INDIA
Email : poultry.pcs@gmail.com, dairy.pcs@gmail.com

+91 9991705007

www.facebook.com/poultryplanner123

www.facebook.com/dairyplanner123

www.linkedin.com/pixie-consulting-solutions-ltd

Marketing Division : +91 741999 3009 / 999170 5007



THE DIGESTIVE SYSTEM IS DIRECTLY LINKED



TO THE HEALTH OF YOUR OPERATION

Helping a calf meet its growth potential begins before birth. Novus researchers found that cows fed unique bis-chelated organic trace minerals containing methionine hydroxy analogue HMTBa during pregnancy produced calves with more muscle and stronger muscle fibers. This practice of maternal feeding—providing the right nutrients at the right time—can result in better performance from birth and beyond.

MINTREX[®]
BIS-CHELATED TRACE MINERALS

Learn more about the solutions Novus is developing for your farm at novusint.com

* Novus is trademarks of Novus International, Inc and are registered in the United States and other countries.
TM SOLUTIONS SERVICE SUSTAINABILITY is a trademark of Novus International, Inc., © 2022 Novus International, Inc. All rights reserved.

NOVUS[®]
SOLUTIONS SERVICE SUSTAINABILITY™

From the Pen of Chief Editor



Preventing Nutritional Deficiency in Dairy Animals

Nutritional deficiencies in dairy animals can occur when the animal's diet does not provide adequate amounts of essential nutrients. When dairy animals do not receive enough energy from their diet, it can result in reduced feed intake, decreased milk production, and reduced body weight. It can hinder the growth and development of an animal. The immune system of the said animal can be severely weak.

It is important to provide an adequate and balanced diet that meets the animal's nutrient requirements to prevent these deficiencies. Healthy milch animals produce safe and high-quality milk. This leads to improved marketability and consumer confidence. To achieve this, nutrition management is of prime importance. A well-managed dairy operation that prioritizes the health and nutrition of the animals can be more sustainable and efficient, leading to improved long-term success.

A dairy should conduct a nutritional assessment for their animals. While doing this, take into account factors such as stage of growth, milk production, and environmental conditions. Then develop a diet plan based on the findings of the assessment. The diet should contain an appropriate balance of nutrients ranging from proteins, carbohydrates, vitamins, fats to minerals. The feed should contain high quality ingredients free from contaminants.

A dairy should regularly monitor feed intake to ensure that animals are consuming the appropriate amount of feed and; that the diet is meeting their nutrient requirements. This should highlight any animals with nutritional deficiencies and then one could adjust their diet accordingly.

Water plays a crucial role in digestion and nutritional absorption. So, ensure that the animals have access to clean and fresh water at all times.

As a final note, I will say, effective health and nutrition management is crucial for the success and profitability of the dairy industry.

OUR TEAM

Vishal Rai Gupta
Managing Director
vishal@pixie.co.in

Siddhi Gupta
Co-Editor
siddhi@pixie.co.in

Archit Sharma
Assistant Editor
M.: 9991705007
editor.pcsl@gmail.com

Bhavana Gupta
Editor-In-Chief
editor@pixie.co.in

Parth Rai Gupta
Director

Designed By Prince

Website: www.pixie.co.in

EDITORIAL BOARD MEMBER

Dr. M S Mahesh
Asst. Professor, BHU, UP
Dr. J Tamizhkumaran
M.VSc., PGDEP., Ph.D.
(Ph. D in Veterinary & Animal Husbandry Extension Education)
Dr. Anjali Aggarwal
Principal Scientist

Dr. Sanjay K Latkar
Alembic Pharmaceuticals Ltd
Dr. Manisha Singodia
(MVSc Veterinary Science, Jaipur)
Dr. Annanda Das
(Ph. D Scholar, WBUAFS, Kolkata)
Dr. M. Arul Prakash
(MVSc Assistant Professor, Tanjore)

Dr. B.L. Saini
(Ph. D IVRI, Izatnagar)
Dr. Bilawal Singh
(MVSc, Assistant Professor Ludhiana)

Office :
Pixie Consulting Solutions Ltd.
C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump,
KARNAL - 132001 (Haryana) INDIA
Email : dairy.pcsl@gmail.com | editor.pcsl@gmail.com
Website : www.pixie.co.in

CONTENTS

Azolla: A New Feed Resource to Improve Livestock Output	06		
Organic Dairy Production: Myth and Reality	10		
Botulism In Animals: Cause, Symptoms and Treatment	13		
Clean Milk Production—Optimizing the Milk Value Chain	16		
Importance of Iodine and Disorder in Animals	20		
Minerals Deficiency in Cattle	22		
Steller	24	Press Release	26
News	30	Save The Date	37
Editorial Calendar	38	Subscription	38

ADVERTISEMENT

Ayurvet Limited	39
Biosint	05
Carus Laboratories Private Limited	19
Irides	07
Novus	03
Pixie Consulting Solutions Ltd.	02
The Dairy Expo	40

Editorial Policy is Independent. Views expressed by authors are not necessarily those held by the editors.

Registered as Newspaper by Register of Newspaper for India : RNI No. HARBIL/2004/22481

Editorial & Advertisements may not be reproduced without the written consent of the publishers. Whilst every care is taken to ensure the accuracy of the contents of **Dairy Planner**. The publishers do not accept any responsibility or liability for the material herein.

Publication of news, views and information is in the interest of positive Dairy industrial development in India. It does not imply publisher's endorsement. Unpublished material of industrial interest, not submitted elsewhere, is invited.

The Submitted material will not be returned.

Publisher, Printer : **Mr. Vishal Gupta** on Behalf of **Pixie Consulting Solutions Ltd.** Karnal.

Printed at : Jaiswal Printing Press, Jain Market, Railway Road Karnal.

Published at : C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump, KARNAL - 132001 (Haryana) INDIA

Editor-In-Chief : Mr. Vishal Rai Gupta

All Legal matters are subject to Karnal.

5M+ Forte[®] Organic (CHELATED)

SUPERIOR QUALITY NUTRITIONAL
SUPPLEMENT OF CHELATED
MINERALS AND VITAMINS

For Dairy Cattle, Sheep & Goat



COMPOSITION

Each 1Kg Contains :

Vitamin A	72,00,000 IU
Vitamin D3	77,000 IU
Vitamin E	275 mg
Nicotinamide	1200 mg
Zinc Glycinate	10000 mg
Manganese Glycinate	1800 mg
Magnesium Glycinate	6600 mg
Copper Glycinate	1600 mg
Ferrous Glycinate	1750 mg
Cobalt Glycinate	175 mg
Iodine as POTASSIUM IODIDE	360 mg
Calcium Glycinate	25.5%
Phosphorus	12.75%
Sodium	7 mg
Sulphur	0.72%
Potassium	110 mg
Chromium polypicconilate	300mg
Biotin	20mg

BENEFITS

- Organic Chelated Minerals improve the important minerals bio-availability
- Effective in increasing Reproductive Performance
- For Improved Milk quality
- For better Health and Growth
- For the control of LAMINITIS in dairy cattle

INSTRUCTIONS FOR USE

Daily Cattle : 50gm daily
Sheep & Goat : 5-10gm daily
or as advised by Veterinarian.

PACKAGING

5M+ Forte organic is available in 1Kg/5Kg printed bags & Bulk Packs available.

STORAGE CONDITIONS

To be stored in a cool, dry, dark place away from sunlight.



BIOSINT[®]
NUTRITIONAL INNOVATIONS

For Further Details

BIOSINT NUTRACEUTICALS,

Factory : 19, Polupalli SIDCO Industrial Estate,
Pillanakuppam PO, Polupalli Village,
Krishnagiri - Hosur Highway,
Krishnagiri - 635 115. TN, INDIA.

Corporate Office : 37, Krishna Nagar,
KK Pudur 4th St, Coimbatore - 641 038.

Telefax : +91- 422 - 2430275, Mobile : 094435 17258

e-mail : info@biosintnutraceuticals.com

www.biosintnutraceuticals.com

Azolla: A New Feed Resource to Improve Livestock Output



**Sanket M. Kalam, H. H. Savsani,
Saman Y. Belim, Sneha D. Patel**

Department of Animal Nutrition, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Junagadh
Corresponding Author: Sanket M. Kalam
Email: kalamsanket@gmail.com

Introduction

India has severe shortage of feed and fodder for livestock yet India is world's greatest milk producer. The estimated shortages of dry fodder, green fodder, and concentrate are 12 to 14%, 25 to 30%, and 30 to 35%, respectively. As a result, the shortage of fodder is compensated for by the use of prepackaged commercial feed, which raises the cost of milk production. The hunt for alternatives to green fodder and concentrates led to the discovery of the amazing plant Azolla, which has the potential of supplying cattle with sustainable feed.

Azolla is a free-floating, rapidly growing aquatic fern on the water's surface. Azolla cultivation assists farmers in lowering the cost of animal feed and is also effective in the production of economical feed supplements for livestock, poultry, and fish. It floats like a small flat, compact green mass. Under optimum conditions, the Azolla plant grows quickly, doubling its biomass every three days. Azolla is rich in trace minerals and carotene. Azolla is used as dual crop in rice cultivation which significantly reduces methane emission. Azolla has at least eight species worldwide: Azolla caroliniana, Azolla circinata, Azolla japonica, Azolla Mexicana, Azolla microphylla, Azolla nilotica, Azolla pinnata, and Azolla Rubra.

Azolla pinnata is the most

abundant Azolla species in India. In comparison to lucerne and hybrid Napier, it generates 4 to 5 times the amount of high-quality protein. Furthermore, biomass output is around 4 to 10 times that of hybrid Napier and lucerne, respectively. These two characteristics are critical in establishing Azolla as "The Super Plant" and increasing economic livestock output.

Azolla cultivation

According to National Resources Development Project's method

1. A silpauline sheet is used to create a water body, particularly beneath the shade of a tree. Silpauline is a UV-resistant polythene tarpaulin. First, a pit of 2 x 2 x 0.2 m is constructed.
2. The pit's corners should all be level in order to maintain a constant water level. To prevent the silpauline sheet from being pierced by the roots of the neighboring trees, the pit is covered with plastic gunnies.
3. A consistent layer of 10 to 15 kg of sieved fertile soil is spread to the silpauline sheet. The sheet is covered with a slurry that contains 10 litres of water, 2 kg of cow dung, and 30 g of Super Phosphate. The water level is raised by adding more water until it reaches about 10 cm.
4. A fresh and clean culture of



IRIS
MONEY
doesn't talk, it swears

Happy cow Plus milk



4 Benefits

1. Money Plus Improves milk yield
2. Improves the fat percentage
3. Improves reproductive performance
4. Helps in better growth

2 Goals

1. More Milk
2. More Profit !!!



FOR FURTHER INFORMATION
please contact +91 80 48663242 or admin@irides.in
or visit our website www.irides.in

azolla weighing between 0.5 and 1 kg is added to the water. Within 10 to 15 days, this will grow quickly and entirely fill the hole. 500–600 g of azolla can be collected every day after that. To sustain the azolla's rapid multiplication and the daily production of 500 g, a 20 g of Super Phosphate and around 1 kg of cow manure should be applied once at every 5 days.

5. To increase the mineral content of azolla, a micronutrient blend comprising magnesium, iron, copper, and sulphur can also be added on a weekly basis.
6. Azolla must be maintained in the rapid multiplication growth phase with the shortest possible doubling time. To prevent overpopulation, biomass (around 200 g per square metre) should be removed daily or every other day.
7. The fern will continue to proliferate quickly with regular applications of cow dung slurry, super phosphate, and other macro and micronutrients except nitrogen.
8. The temperature should be kept below 25°C. If the temperature rises, the light intensity should be lowered by providing shade. As far as possible, locate the producing unit in a shady location.
9. The pH should be monitored on a regular basis and maintained between 5.5 and 7.
10. To minimise nitrogen build-up and micronutrient deficiencies, around 5 kg of bed soil should be replaced every 30 days with

fresh soil. Furthermore, 25 to 30% of the water must be changed with fresh water once after every 10 days.

11. Once in a every six months, the bed should be cleaned, the water and soil refreshed, and a new azolla should be inoculated.
12. When contaminated by pests and diseases, a fresh bed must be prepared and inoculated with pure azolla culture.
13. To eliminate the odour of cow dung, the azolla should be washed in fresh water before use.
14. If cultivated in any natural water body it should be away from industrial effluent as it might get affected due to heavy metals.

Harvesting and preparing azolla as livestock feed

1. Harvest the floating azolla plants with a plastic tray with 1 cm mesh holes to drain the water.

2. Wash the azolla to remove the odour of cow dung. Washing aids in the separation of little plants which drain out from tray. The plants, together with the water in the bucket, can be poured back into the original bed.
3. Fresh azolla should be mixed with commercial feed in a 1:1 ratio before feeding to livestock. After a fortnight of feeding azolla with concentrate, livestock can be fed azolla without the addition of concentrate.
4. For poultry, azolla can be fed to layers as well as broilers.

Effects on Animals

A. On growth performance and nutrient's digestibility

Azolla meal can replace up to 15% of the concentrate mixture in the diet of Osmanabadi goats due to its high fibre content (Ghodake et al., 2012). Furthermore, improving DM digestibility, daily growth, and feed efficiency by substituting 30

Nutrients composition of different Azolla species (Kathirvelan et al., 2015)			
Nutritional Content	A. caroliniana	A. microphylla	A. pinnata
Crude protein (%)	23.07	23.69	17.59
Crude fiber (%)	13.19	15.02	16.54
Total Ash (%)	29.17	28.71	25.28
Calcium (%)	2.07	2.07	1.67
Phosphors (%)	0.59	0.77	0.46
Iron (%)	0.269	0.249	0.231
Manganese (%)	0.238	0.274	0.205
Sodium (%)	1.240	0.488	0.777
Potassium (%)	2.44	4.93	2.19
Copper (ppm)	16.37	17.55	15.90
Zinc (ppm)	64.51	71.75	46.77
Magnesium (ppm)	0.15	0.173	0.155
Moisture (%)	5	5	5

or 50% of the groundnut protein in the diets of Nellore sheep or buffalo, respectively (Indira et al., 2009). Replacement concentrate feed by 20 and 30% dried Azolla increased the average daily gain of goats by 56.5 and 60%, respectively (Adake 2015). According to Sihag et al. (2017), a concentrate mixture of goat diets can be replaced with sundried Azolla up to 15% without affecting any economic feeding. The addition of 10% Azolla had 2.5 times higher weight gain in growing lambs under a semi-intensive system and reduced feed costs by 22% compared to the control diet without affecting feed consumption (Wadhvani et al., 2010).

When 10% protein of concentrate mixture was substituted by Azolla meal on a DM basis, there were no significant difference in DM consumption, ADG, or feed efficiency of Mecheri lamb groups (Sankar et al., 2020). Das et al. (2017) also reported that, replacing 25% of the Azolla in the feed of Jalauni lambs with mustard cake protein resulted in the optimum nutrient utilisation and digestion. In the diets of Corriedale sheep, replacing 25% linseed cake with 6% Azolla enhanced body weight and DM digestibility with improved FCR (Ahmed et al., 2016).

Anon (1985) observed that buffaloes fed a diet composed of rice straw and 45% Azolla enhanced the growth rate compared with that of a diet containing rice-straw alone. Nutrient digestibility in buffalo did not alter significantly when 25% of the concentrate mixture's protein was replaced by sun-dried Azolla (Kumar et al., 2012). Replacing 5% of the concentrate mixture in the

heifer diet with dried Azolla increased average daily gain (ADG) by 15.7% and feed conversion efficiency (FCE) by 20%. (Roy et al., 2016).

Bhatt et al. (2020) observed that replacing 15% of the protein content of concentrate with Azolla enhanced average daily growth in calves. Sharma et al. (2021) concluded that supplementing 150, 250, and 350 gm of green Azolla to a concentrate diet improved the growth performance in calves, with ADG increasing by 21.13, 29.34, and 22.59%, and FCR improving by 13.3, 17.38, and 12.82%, respectively, as compared to 0 Azolla supplement, and from the results, it was concluded that the best green Azolla supplement was with 250 gm. Varun Singh et al. (2021) recently reported that supplementing dried Azolla up to 20% of DM diet had improved lamb carcass qualities.

B. On Milk yield

Pillai et al. (2002) reported that substituting 15–20% commercial feed with dried Azolla saved 20–25% of commercial feed but did not influence milk yield. However, Pillai et al. (2005) found that adding 1.5–2 kg of fresh Azolla as a regular feed per day to the diet of dairy cattle boosted milk production by 15% and saved 20–25% of commercial regular feeds. When commercial feed was replaced by 15–20% Azolla in dairy cow diet, it enhanced milk production by 15–20%, which may be due to Azolla's high protein and low lignin content (Gouriet et al., 2012). Moreover, enhanced milk yield and FCM by 11.2 and 12.5% as well as feed conversion efficiency as kg DMI / kg FCM yield were observed when Azolla added at a

rate of 2 kg per day in the diets of crossbred bovine animals (Chatterjee et al., 2013).

Incorporating 1.5–2 kg of fresh Azolla into cow and buffalo diets enhanced milk production by 20.96% and 16.9%, respectively (Mathur et al., 2013). Khareet al. (2014) also reported that the milk yield of lactating cows increased when the diet was supplemented with Azolla compared with the control group. Cottonseed cake supplemented with 1.5 kg fresh Azolla/buffalo/day enhanced milk output by 16.25% and improved animal health (Meena et al., 2017). Using Azolla as a feed supplement in the diets of crossbred cows (1 Azolla:1 concentrate) increased milk yield by 11.85% (Rawat et al., 2015), while Kumar et al. 2020 reported that fresh Azolla can be used as a feed supplement for dairy cows up to 1000 g per day, which could increase milk production by 7–13%.

Conclusion

- Azolla is a novel feed and the cheapest source of protein that can be added up to 20% in ruminant diets to improve nutrient digestibility and animal performance.
- Fresh Azolla may be used as a feed supplement up to 2 kg/day/animal or as a replacement dried Azolla up to 20% from commercial feed for dairy cows and buffalo, to save 15–20% of commercial feed and increasing milk production by 7 to 20%.
- Azolla in animal feed improves animal performances and lower the feeding expenditures to economic animal production for overall benefits.

Organic Dairy Production: Myth and Reality



Sudhanya Nath

Assistant Professor, Department of Animal Nutrition, Institute of Veterinary Sciences and Animal Husbandry, Bhubaneswar
sudhanyanath@yahoo.com

Aravindkumar K.

Internee, Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry

Chidambaranathan Arumugasami

Internee, Veterinary College and Research Institute, Tirunelveli

Abstract

Dairy farming came into the green scene as a prominent industry following certain criteria in 1990s. Popularity of natural dairy and its products may be traced back to a number of major events, also with a reaction to Monsanto's 1994 launch of genetically engineered or transgenic Bovine Growth Hormone. Products which are nutritive and free from any type of chemical residues always allure the health conscious consumers. Organic milk and its products are trapped in the net of myths and got a bad rap because majority of people overlook the quality and nutritional advantages of organic milk and believe in misapprehensions. People should be made aware of the benefits of organic dairy farming and should be able to distinguish facts from myths, to make the best possible decisions regarding organic dairy products.

Introduction

Organic milk production is a type of farming that avoids the use of herbicides, artificial fertilizers, and pharmaceuticals in the production of milk, yoghurt, cheese, cream, and other dairy products. Natural dairy products are those derived from organic dairy farms. Organic milk is a recent addition to the organic society, although organic crops, greens, nuts, as well as some livestock have traditionally been staples. Rampant use of prescribed drugs such as hormones, antibiotics, and steroids, along with increased public awareness of genetically modified maize, soybean, and other crops treated with a combination of

synthetic pesticides being fed to livestock; feeding of slaughter by-products to milch animals and concerns about mad cow disease; have stirred up many consumers to opt for organic dairy products. For some producers, organic dairy farming could be a suitable fit. While making the switch, several variables must be taken into consideration, like current and future milk demand in market, regulations, certifications, manufacturing cost, and lifestyle goals.

Organic Dairy Certification

Manufacturers should be ethically sourced to produce and market organic milk and its products. Basic certification requirements include:



- Cattle and calves should be provided only organic feed.
- Organic forage, and grassland typically cultivated without using chemical fertilizers and pesticides should be thoroughly tested and authorised for use in organic agriculture.
- Organic commodities must be grown on soil that has been clear of all banned elements for at least three years before to the first natural harvest.
- Non-natural growth regulators and additives, including as minerals and vitamins, must be authorized for usage.
- Genetically engineered crops (GMOs, also known as "Excluded Methods" in the regulation) should be prohibited.
- Artificial dairy replacers should not be permitted. Young ones should only be given organic milk.
- Every animal should have access to outdoor as per the condition of weather.
- During the growing season, animals above the age of six months should have accessibility to grassland.
- Antimicrobial use should be limited depending on the severity of illness. Use of only accredited medical products should be permitted.
- Organic animals should not be permitted to be fed any slaughterhouse by-products, urea, or manure.
- The animals' well-being should be prioritised. Certain procedures like tail docking, are strictly forbidden. Dehorning should be done in a way that the animal is not stressed.
- An organic farmer should be well familiarized with the standards and maintain enough records to verify compliance with the requirements.

- Every year, each farm is inspected and certified with or without prior notice.

Organic milk production standards

To establish an organic dairy farm, a farmer must enroll with an organic regulatory body and use an organic-compliant processing method. The European Union Regulation (1804/1999), the Organic Food Products Act (OFPA) of the US, the Draft Guidelines of Codex/WHO/FAO, the United Kingdom Register of Organic Food Standards (UKROFS) of UK, and the International Federation of Organic Agricultural Movements (IFOAM) basic standards are all relevant and widely accepted organic standards. Following guidelines should be considered while manufacturing organic dairy products:

a) Conversion to organic from conventional farming:

Conversion planning is essential for moving from conventional to organic production. Either entire farm will be converted at once, or the conversion will be done in stages over several years. Property must be converted to organic status for at least three years. Organic milk can be processed as soon as the land is certified as fully organic. Herd should have begun nine months and fed six months prior to the intended organic milk production date to achieve organic status.

b) Feeding:

Both feedstuffs used on the farm must be organically grown and approved. Required feed should be produced on the farm, and pastures should be utilized to the fullest extent possible. Mineral supplementation is only allowed where organic husbandry activities fail to meet trace element standards.

c) Soil fertility:

Appropriate rotations, alternating silage and grazing ground where possible, and careful use of recycled manures and slurry can help to

maintain soil fertility.

d) Livestock manures:

Manure from other organic farms can also be carried in. Maximum volume of nitrogen per hectare per year that can be added to any one field should not exceed 250 KgN/ha/yr. Poultry litter from certified organic farms should be appropriate. Permission from the concerned authorities can be required for the use of manure raised on traditional farms.

e) Housing:

Different control bodies can have different space requirements. Cows must have access to a comfortable, dry lying area. It is preferable to stay in well-bedded loose accommodation. A minimum of 6m²/animal should be given to dairy cows. Young stock should have a space requirement of 1 to 1.75m²/100 kg live weight. Amount of slats used should not exceed half of the floor space available to each stock category.

f) Animal health:

Veterinary medicines and antibiotics may be used in illness or accident with a withdrawal time at least double the specified withdrawal period. Vaccination is allowed with derogation in situations where a disease incidence is recognized. When organophosphorus items are used, farm's organic status is completely lost.

g) Sources of stock:

Existing livestock on a farm that is converted to organic production can be kept but never sold as organic, but the milk from these cows and their progeny can be sold as organic during the required conversion periods. In addition, artificial insemination is allowed.

h) Selling of organic milk:

It is necessary to sell organic milk through an organically licensed manufacturing outlet in order to obtain premium rates. Marketing

should be considered prior to production's start. In milking parlours and dairies, licensed sterilants should be used.

i) Dairy bred beef calves:

If the dairy farm does not have a beef enterprise, it might be beneficial to establish contacts with organic beef rearers and finishers who may be involved in buying weaned calves. It's also important to think about which bull breed you choose.

Benefits of organic milk:

Different benefits of organic milk are mentioned in Fig. 1.



Fig. 1: Benefits of Organic Milk

- CLA helps to reduce the fat percentage and cholesterol content in the body. It also helps to reduce hypersensitive reactions such as allergies in the body.
- Lutein content in organic milk is essential for eye protection and can help avoid a variety of eye diseases including macular degeneration and cataracts.
- Eye well being benefits from zeaxanthin as well. It protects the eyes from UV radiation as well as the influence of free radicals. Cataracts, diabetic retinopathy, glaucoma, and macular degeneration can all be prevented by it.

Potential of organic dairy farming in india

Organic milk production in India has a huge potential. In contrast to other developing countries, India's dairy production activities are not as intensive. Organic milk production is ideally suited to some of the country's agro-climatic areas. This group

includes the monsoon fed states like Rajasthan, Gujarat, and Madhya Pradesh, as well as the mountainous states of Himachal Pradesh, Uttarakhand, Jammu & Kashmir, Tamil Nadu, and the whole North-Eastern region.

Factors involved in organic farming development

• Constraints

Lack of knowledge and awareness, restrictions on landless organic dairy farming not permitted by the National Standards of Organic Production (NSOP), limited availability of organic feed ingredients for formulating compound organic feed, problem of maintaining proper records, and high production and maintenance costs are some of the constraints in the development of organic dairy farming.

• Opportunities

Demand for organic livestock products is growing in the USA, EU,

Japan, Argentina and Brazil. Belgium, Luxembourg, the Netherlands and the UK import significant amounts of organic produce.

Conclusion

Fertilizers, antibiotics, drugs, agrochemicals, and improved feeds have expanded food production and availability. Consumers, on the other hand, have grown more conscious about the quality of the food they purchase. They, seek ecologically friendly, nutritious products that have less or no chemicals, real - time tracking and a high degree of animal care, which organic farming techniques claim to provide. Though organic farming is challenging for producers in developing countries, it also gives scope for new export markets. Organic dairying is a development technique, based on a set of objectives that allows producers to deal with their specific circumstances while adhering to the standards of organic farming.

MYTHS VS REALITY

MYTHS	REALITY
Organic products are healthy for both humans and cattle.	Milk of both organic and non-organic is nutritionally equivalent. Dairy farmers make sure that the best quality dairy machines are used on the farm, which helps to carry out the entire process smoothly and effectively.
Organic milk is full of hormones.	Growth hormones are not used in dairy cows, especially because they are used for milk and not meat. Cows naturally produce the BST hormone to produce milk.
Organic dairy causes health issues.	In the world, around 1% of population is intolerant to lactose. Apart from that, organic milk products are full of nutritional value. Ca, P, K, protein, carbohydrate, niacin, vitamins A, D, B2 and B12 are all abundant in these dairy products.
Cows are full of antibiotics	Organic dairy farmers make sure that the milk and dairy products are free from antibiotics. Dairy products are tested in many ways before it is available for the final consumption.
Milk contains pus or blood	Milk is tested several times to make sure it is of the best quality, in its pure form and deprived of antibiotics. The farmers keep a proper track of the cow's health and there is no way that the milk can be contaminated with blood, or pus.
GMO milk	Whatever a cow is given in its diet, it does not determine whether the milk is "GMO" or not. GMO and non-GMO feed have the same nutrient value.
Cows are subjected to inhumane conditions in order to provide milk to humans.	Organic dairy farming is just like any other conventional dairy farms that include use of organic feeds and pastures, and limited use of medications.
Male calves are removed from their dam after birth and are slaughtered right away.	Once the calves are relaxed, have been cleaned by dam, and have received sufficient colostrum, they are moved to different quarters where their safety and health are prioritized and can be constantly observed. As male calves are not for milk purpose, they will eventually end up as beef.

Botulism In Animals: Cause, Symptoms and Treatment

Introduction

Botulinum toxin also known as “miracle poison” is produced by the bacterium *Clostridium botulinum*, an anaerobic, gram-positive, spore-forming rod. *Clostridium botulinum* is widely distributed in the environment and their spores are resistant to various stress factors (physical and chemical) in the intestine of the animals. It can persist for long period of time until favourable conditions enable germination. Under conducive environment (such as humidity, nutrients and the absence of oxygen), spores germinate into vegetative cells; conversely, exposure to oxygen, water, and nutrient deprivation triggers sporulation.

There are eight antigenically distinct serotypes named A, B, C1, C2, D,E,F, and G. Among the serotypes, all the serotypes produce neurotoxin except C2 which produces enterotoxin. All exotoxins block the release of acetylcholine causing muscle paralysis. Out of the eight types, toxins A, B and E are most important in human and type E is more important in most animal species. The source of the toxin is decaying carcasses or vegetable materials such as grass, grain, hay or spoiled silage that are sometimes consumed by the livestock. Animal botulism outbreaks can spread quickly, intoxicating hundreds of thousands of animals in just a few days. It primarily affects wild and domesticated animals. Typically, outbreaks take place in areas where *C. botulinum* spores are present because they can germinate in anaerobic conditions in decaying

organic matter. Warm temperatures, shallow alkaline waters with large invertebrate populations, and rotting vertebrate corpses are all environmental factors that favour outbreaks of botulism. Outbreaks are caused by toxic clostridial strains, but it is also possible for non-toxic strains to acquire toxic properties through horizontal gene transfer. The formation of vegetative cells in decomposing organic matter and the production of BoNTs (Botulinum Toxin) via autolysis are the first steps in the life cycle of toxigenic clostridia in animals. Invertebrates that are not susceptible to BoNT, such as worms, mussels, and larvae, consume contaminated organic material. The life cycle of *Clostridium botulinum* in animals is outlined in this article, along with investigations that have increased our knowledge of BoNT entrance into neurons, nerve cell trafficking, and poisoning.

History

The disease “Botulism” is named after the Latin word “botulus” which means sausage that was used in 18th century in Europe to describe a fatal disease-causing muscle paralysis leading to respiratory arrest after eating raw sausages. German Dr. Justinus Kerner (1786–1862) performed various experiments and first described botulism as food poisoning after consuming meat. He was also the first to describe the therapeutic use of botulinum toxin.

The microbiologist Emile van Ermengem discovered the bacterium in 1897, after an epidemic of botulism in the city of Elezel (Belgium) due to the consumption of ham of



**Dr. Sushree Sangita Mohapatra,
Dr. Harpreet Kour, Dr. Sivaraman
Ramanarayanan and Dr. Zarzoliani**

Ph.D Scholars, Department of Veterinary
Pharmacology & Toxicology, Gadvasu, Ludhiana.

Corresponding Author:

Dr. Sushree Sangita Mohapatra
Email: drsushree.m@gmail.com



homemade pork and found that the endospores produced a toxin and that the sickness was brought on by the anaerobic growth of the bacteria. Scientists isolated one of the seven toxins produced by Clostridium. Two military laboratories, one in the United States and one in United Kingdom, studied the effects of toxin B on the nervous system during the Second World War as the toxin possessed the threat of bioterrorism. The mechanism of action of the toxin was discovered in 1950 and 1960. The medical use of botulinum as a treatment for strabismus in human beings began in 1977 and in 1989 aesthetic use of the toxin was reported.

Mechanism of action

The way that botulinum toxin works is by cleaving essential proteins needed for nerve activity. First, the acetylcholine-using neurons' presynaptic surface is where the poison particularly binds. Once the poison is attached to the nerve terminal, the neuron uses receptor-mediated endocytosis to take it up and store it in a vesicle. A portion of the toxin is activated as the vesicle goes further inside the cell, pushing the toxin through the vesicle membrane and into the cytoplasm. Botulinum neurotoxins simultaneously recognize various receptor classes (gangliosides, synaptotagmin and SV2). The cholinergic vesicles cannot link to the intracellular cell membrane because the toxin, once within the cytoplasm, cleaves SNARE proteins, which mediate vesicle fusion with their target membrane-bound compartments. As a result, the cell cannot release neurotransmitter vesicles. This prevents nerve signalling, which causes paralysis. The toxin is first released from the bacteria as a single chain, which is subsequently cut by its own proteases, activating the toxin. The two-chain protein that makes up the active form has a disulfide link

connecting a 50 kDa light chain polypeptide to a 100 kDa heavy chain polypeptide. The heavy chain has domains that serve a variety of purposes. These tasks include facilitating the translocation of the light chain into the cell cytoplasm when the vacuole becomes more acidic and attaching selectively to presynaptic nerve terminals. The toxin's active ingredient is the light chain, a zinc metalloprotease belonging to the M27 family. It moves into the cytoplasm of the host cell and cleaves the fusion-initiating host protein SNAP-25, a member of the SNARE protein family. Acetylcholine is not released from axon terminals because the cleaved SNAP-25 is unable to facilitate the fusion of vesicles with the host cell membrane. As the toxin loses its activity and the SNARE proteins are gradually rebuilt by the afflicted cell, this obstruction is gradually reversed. The antigenicity of the seven toxin serotypes (A-G) is traditionally used to classify them. They differ in their tertiary structures and sequences.

Botulism in Animals

Infection is likely to occur among cattle grazing in extensive agriculture areas with phosphorous-deficient soil chew any bones with flesh on the range carrying C. botulinum type D toxin. Animals eating from this type of source usually ingest spores that germinate in the intestine then migrate to muscle and after the death of the host, become toxic for other animals/ cattle. Type C botulinum toxin also gets migrated in a similar fashion. Forage botulism occurs by ingestion of contaminated hay or silage with toxin-containing carcasses of birds or mammals and poultry litter. The risk of botulism increases when the fermentation fails to produce a low and stable pH (< 4.5).

Botulism in sheep mainly occurs with protein and carbohydrate-deficient animals eating infected carcasses of

rabbits and other small animals found in the range.

Botulism intoxication in horses results from the consumption of forage contaminated with type C or D toxins. Type A botulism is resulted mainly due to contaminated hay and silage. In Toxicoinfectious botulism, C. botulinum type C grows in the tissues of a living animal and produces toxins that lead to shaker foal syndrome. Symptoms like gastric ulcers, necrosis of the liver, abscesses in the lungs and navel wounds in the skin and muscle predispose the infection of the bacteria. This type of botulism resembles "wound botulism" in human beings.

In mink, Botulism is caused by C. botulinum type C which produces toxin in chopped raw meat or fish.

The poison induces paralysis if dogs consume something contaminated with it. Dogs that contract botulism typically do so by consuming the rotting tissue of a dead animal.

Though uncommon in cats, with the consumption of raw meat and dead animals contaminated with the toxin, botulism develops in them which can be fatal to the animals.

Clinical Signs of Botulism

The main clinical signs of Botulism are flaccid muscle paralysis, progressive motor paralysis including disturbed vision, difficulty in chewing and swallowing, and generalized progressive paresis. These symptoms are brought on by flaccid muscular paralysis. Paralysis of the respiratory or cardiac systems typically causes death. At motor endplates, the toxin blocks the release of acetylcholine (neuromuscular junction). Muscle contraction and impulse transmission down motor neurons are unaffected. The pathologic alterations can be attributed to the toxin's broad paralytic action, notably in the muscles of the respiratory system, rather than to the toxin's specific effect on any one particular organ

since no distinctive gross and histologic abnormalities emerge.

In outbreaks, up to 65% of mature cows in dairy herds had clinical cases of botulism and passed away 6–72 hours after being recumbent. Drooling, diminished tongue tone, dysphagia, difficulty urinating, and sternal recumbency that changed to lateral recumbency soon before death is observed to be among the main clinical findings. Skin sensitivity is often normal, and limb withdrawal reflexes are minimal. Clinical symptoms initially mirror second-stage parturient paresis, however, calcium parenteral treatment had little effect on the cows.

Similar clinical symptoms have been reported in horses, including respiratory distress, mortality, recumbency, dysphagia, and decreased muscle tone (tail, tongue, and jaw).

Foals with shaker foal syndrome are often under 4 weeks old. Affected foals may be discovered dead without any previous warning indications of illness; they frequently show symptoms of increasing symmetric motor paralysis. Salient symptoms include a stilted walk, trembling muscles, and an inability to stand for more than four to five minutes. Dysphagia, constipation, mydriasis, and frequent urination are other clinical symptoms. Dyspnea with the extension of the head and neck, tachycardia, and respiratory arrest happen as this condition develops further. Most frequently, death results from respiratory failure 24 to 72 hours following the onset of clinical symptoms. The most common necropsy findings are pulmonary edema, congestion, and an abundance of pericardial fluid, which contains fibrin strands that are free to float.

In Dogs, muscle paralysis is the source of the botulism symptoms like diarrhoea or retching, increasing

brittleness, usually beginning in the hind limbs and spreading, paralysis, vision issues, struggle to swallow and chew, bradycardia and dyspnea. Symptoms usually appear 12 to 36 hours after your dog has been exposed to the pathogen.

In cats, the progressive weakness brought on by the *Clostridium botulinum* neurotoxin spreads from the rear legs to the neck, front legs, and trunk until all four limbs become paralysed. Although cats are typically able to withstand the more serious side effects of this toxin, in some circumstances they may become quite unwell. Typically, illness symptoms appear between a few hours and six days after consuming rotting animal flesh contaminated with the preformed neurotoxin of *Clostridium botulinum* type C.

Diagnosis of botulism in Animals

Clinical assessment is suggestive but not conclusive in cases of recognizable motor paralysis. The standard diagnostic test for the detection of botulism is the mice inoculation test. Despite the fact that occasional cases of botulism are frequently suspected due to the distinctive muscular paralysis, it is challenging to make the diagnosis by looking for the toxin in suspicious feed, animal tissues, or serum samples. Usually, alternative causes of motor (flaccid) paralysis are ruled out before making a diagnosis. It is possible to test many samples using ELISA testing for toxin detection, improving the likelihood of confirmed diagnosis. The organism that causes toxicoinfectious may be grown from the tissues from sick animals.

Treatment and Control

Controlling measures such as addressing nutritional inadequacies, immunising against region specific toxoids, and providing supportive care can be taken to prevent the outbreaks. Range animals should

have any food inadequacies treated, and carcasses should be disposed of if at all feasible. Silage that has gone bad or dead grass should not be consumed. Toxoid is effective at immunising mink and has also been used on pheasants. Depending on the toxin implicated and the species of host, botulinum antitoxin has been used for treatment with variable degrees of effectiveness. Hydration, electrolyte imbalance correction, and general supportive measures make up the course of treatment. Although type C antitoxin is frequently beneficial in treating ducks and mink, it is rarely used on cattle. Antitoxin (type B) specific or polyvalent early administration to foals before recumbency (30,000 IU, IV) has been reported to be effective. The prognosis is dismal for recumbent animals, making supportive care crucial for valued animals. It seems that immunisation with type B toxoid is beneficial in endemic regions. Immunization of cattle with types C and D toxoids has proved successful in South Africa and Australia.

Conclusion

The toxin is known to be fatal to the livestock population and poses the risk of inducing endemic. Since there is a high chance of loss of economy to the farmers, proper care and management of the herd should be done for the control of the toxin. Proper carcass disposal, providing proper mineral supplements in areas deficient in phosphorous, and maintenance of pH in silage pits can lead to the prevention of disease in domestic animals. The development of vaccines for particular serotypes can lead to the prevention of the disease. Since there is no absolute treatment for the disease, in the toxin-prone areas, close observations in the development of clinical symptoms can help in early diagnosis and treatment leading to reducing mortality.

Clean Milk Production –Optimizing the Milk Value Chain



**Dr. Kundan Kumar, Dr. Arnab Kundu and
Dr. Imtinungsang Jamir**

Subject Matter Experts at Dr. Rajendra Prasad Central
Agricultural University-PUSA Samastipur

Dr. Raes Ahmad

Farm Improvement Services Head at Moomark Pvt. Ltd.

Abhishek Pratap Singh

Senior Scientist at Dr. Rajendra Prasad Central
Agricultural University-PUSA Samastipur
Corresponding author: Dr. Kundan Kumar
Email: vetchoudhary11@rediffmail.com

Introduction

India is the largest producer of milk in the world, contributing 23% of global milk production. Growing at rate of more than 6 percent milk production has increased to 209 million tons in 2021-22 and is estimated to reach about 30 crores tonnes by 2030 as per NITI Aayog report. The total size of dairy market was about Rs. 11.35 lakh crore in 2020 which has been growing at about 15 % per annum during last 15 years and is expected to reach a market size of about Rs. 26 lakh crores by 2026 as per IMARC 2021 report. Present cattle population is 193.46 million and buffalo population is 109.85 million with growth rate of 1.34 and 1.06 percent respectively, Average yield of 9.15 kg/day in exotic cows, 7.22 Kg/day in cross bred cows, indigenous buffaloes 6.41 Kg/day non-descript buffalo 4.13 Kg/day and non-descript cow 2.71 Kg/Day. 45% of the milk production is contributed by Indigenous Non-Descript Buffaloes followed by 28% by crossbred cows. The Indigenous/Non-descript cows contribute 20% of the total milk production in the country.

Dairy industry employs more than 80 million rural households. Small and marginal farmers own 33% of the land and approximately 60% of all female cattle and buffaloes. The small holder farmers and innovative

entrepreneurship models are the driving force behind India's position as the world's leading milk producer. Although there is little scope for mechanizing milking methods and affordability yet this does not rule out the possibility of producing clean milk in India. Without the production of clean milk there is no use of maintaining high yielding cows and good feeding practices. Clean Milk Production (CMP) as a practice of socio-economic importance, needs to be emphasized by highlighting the, management practices, information dissemination and capacity building about hygienic practices by multi-stakeholders involvement viz. dairy farmers, scientists and extensionists and public health officials towards CMP in Indian dairying.

Milk to Clean Milk

While milk is technically defined normal mammary secretion of milking animals obtained from one or more milking's without either addition to it or extraction from it.

Clean Milk is

- Drawn from the udder of healthy animals collected in clean, dry milking pail
- Free from extraneous material like, dirt, dust flies, hay, manure etc.
- Has a normal milk flavor with low



bacterial count.

- Normal composition and acidity.
- Free of antibiotics and chemical residues.
- Is safe for human consumption

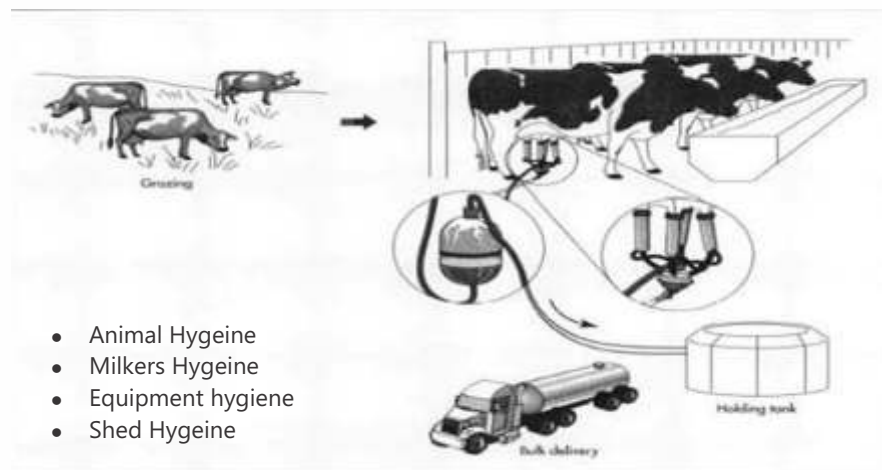
Milk flow Chain in India

According to Consumer Expenditure Survey (CES, 2011-12) of NSSO, about 78% and 85% of rural and urban population respectively reported consumption of milk in the country. In India, about 46% of the milk produced is either consumed at the producer level or sold to non-producers in the rural area, the balance 54% of the milk is available for sale to organized and unorganized players. Organized sector comprises of Government, Producers' Owned Institutions (Milk Cooperatives & Producer Companies) and Private players which provides fair and transparent system of milk collection round the year at the village level. Unorganized/ informal sector involves local milkman, dudhias, contractors etc. and they are mostly found to be opportunistic, as there is no uniformity of milk price paid to producers and it varies depending upon the situation.

Clean Milk Production for sustainable Dairy Farming

Rural small-scale milk producers contribute to 62% of the country's total milk production being the source of nutrition and livelihood. The majority of these farms have inadequate infrastructure and quality control. They have low input costs, occupy less than one hectare of land, and rely on family labor. The farmers frequently engage in behaviors that have the potential to harm the public health, such as improperly cleaning of the farm or barn, failing to wash their hands or udders before milking, and using antibiotics to promote production. Smallholder farmers frequently wait until the situation has gotten serious and the animal has received numerous antibiotic treatments before consulting a veterinarian. Along with this, the withdrawal period is rarely followed and the milk from cows treated with antibiotics is often sold for human consumption. When milk samples were analyzed to estimate AMR in livestock, 48% of Gram-negative bacteria found in

cow and buffalo milk produced extended-spectrum β -lactamases (ESBL) in West Bengal, and 47.5% were oxytetracycline-resistant in Gujarat (Sharma, G. 2022). In the absence of proper milking hygiene, milk can act as a medium of spreading bacteria and other microorganisms. As such, disease hazards in public can easily be predisposed by infected milk during production, handling, and marketing. Milk, if it is not fit for human use is a financial loss to the producing farmer. Thus, clean milk is important for both public health concerns and profit generation of the dairy farm.



Components of Clean Milk Production

Animal Hygiene

Obtaining clean milk starts with ensuring that the cow to be milked is healthy.

- Vaccinate animals against brucellosis.
- Check animals periodically for all types of contagious diseases.
- Cows/buffaloes should be washed with fresh water before every milking as this reduces milking time, udder infection and bacterial contamination.
- Do not consume nor sell milk from the cow which is under treatment, until the treatment is completed and the withdrawal period is over.
- Do not scare or distress your cows by shouting, beating kicking as it hampers milk let down.
- Visible dirt on the udder and teats must be removed using clean, running water, and individual paper towels or cloths dipped in clean water to which a disinfectant has been added.

- Make sure that the animal remains in a standing position for at least one



hour after milking.

Milkers' Hygiene

- Make sure that anyone involved in

milking cows is healthy and clean.

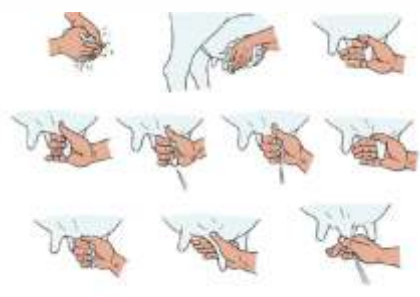
- Fingernails should be kept short and people with long hair should cover their heads.
- Never smoke during milking time.
- Wash your hands thoroughly with soap and clean water then dry with a clean towel.
- Hand-milking, then we recommend applying some milking jelly to the teat, if available. This will prevent cracking of teats and generally make milking easier.
- Never moisten the hands with Milk, water and spit as they are potential



sources of contamination

Best Milking Tips

- Massage the back of udder and front of teats for good let down.
- Foremilk the cows by drawing one or two streams of milk from each teat into a strip cup.
- Pre dipping of 2/3 of each teat by sanitizing solution (KMno₄, Iodine sol.) for 30 seconds before milking.
- Milking should start within 60 seconds after udder wash.
- Full hand milking should be followed instead of Knuckling.
- Never try to pull the milk instead squeeze the milk out.
- Time for milking should be 6-7 Minutes for best milking.
- Do not interrupt milking before udder is empty.
- Post Dip the lower one-third of each



teat with antiseptic solution. This effectively controls mastitis

Environmental Hygiene

- Milking area should be cleaned after every milking.
- Loose housing system is best for Clean milk production
- Make sure that anyone involved in handling milk is healthy and clean.
- When transferring milk between containers, pour the milk directly from one container into the other

instead of scooping it with a cup or bucket.

- Dusty or very fine concentrate should be avoided during milking.
- Silage and wet crops should not be fed at milking as it imparts foul odour in milk.



- Animal feed and fodder should be free of toxins.

Transport and Storage of Milk

- Filter milk immediately after milking and prior to storage
- Store milk without chemicals in a cool, clean room set aside for milk only
- Do not mix warm (morning) milk with cool (evening) milk.
- Keeping containers under a shade loosen the lids of the cans to allow warm air to escape.
- Rough handling causes fats to oxidize or split up leading to rancid taste
- Deliver milk to the market as soon as possible, preferably in the cool morning or evening.
- Rinse all utensils with cold water immediately before drying to remove 90% of water soluble residue



- Take a brush and wash with hot water with detergent mixed in it to remove fat, milk stone and dirt.
- Rinse the utensils with thoroughly clean water.
- Leave the utensils to dry after dipping in disinfectant solution
- Rinse the utensils in clean water just before milking

Conclusion

Milk is an essential commodity, which is consumed by large number of consumers. Maintaining quality is important for both health and financial perspectives. Extension experts must create awareness about the practice of CMP and its advantages for the farmers and the consumers. A need based long-term multi-stakeholder approach is very essential with the involvement of farmers



Glycine Chelated **SAMRIDHI**TM **GOLD**

Area specific mineral mixture

With the power of thermostable live yeast, chromium propionate essential amino acids and coated vitamins

Benefits :

Improve
Fertility

Faster
Weight Gain

Early
Puberty

Higher
Milk Yield

Improve
Immunity



Glycine Chelated
Technology



As per *NDDB
Guidelines

Glycine Chelated Minerals
Mass (Dalton) 57.05

Self Manufacturing
Quality Guaranteed

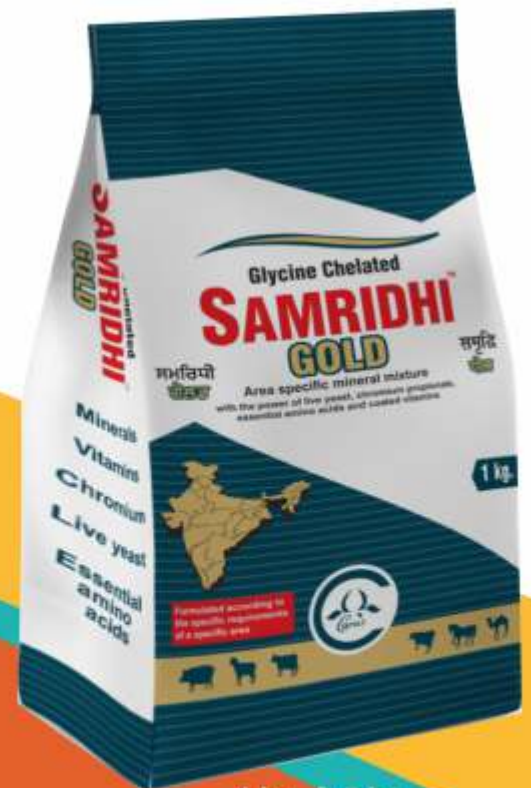
Usage:

Cow, Buffalo & Horse : 50 gm. per day

Calf, Sheep, Goat & Pig : 25-30 gm. per day

Camel : 100 gm. per day

Or mix 1-2 kg. in 100 kg. feed or as advised by the nutritionist



1 kg. & 5 kg.



Carus Laboratories Private Limited

(An ISO & FAMI-QE Certified Company)

Plot No. 75, Sector 3, HSIIDC, Karnal-132 001, Haryana (INDIA)

Website : www.caruslab.com | E-mail : info@carus.in

Nutrition Division

Importance of Iodine and Disorder in Animals



Preety Singh

Assistant Professor, Veterinary Pathology, College of Vety Sci. & A.H., Bilaspur, DSVCKV Durg (C.G.)
(drpreety22singh@gmail.com)

Somesh Kumar Joshi

Veterinary Assistant Surgeon, Livestock Development Department, DDVS Balod, (C.G.)

Introduction

Iodine is an essential trace element for thyroid hormone which plays an important role during growth and development of humans and animals. Excess or deficient iodine intake may result in altered thyroid metabolism. About more than 95 % of total iodine is accumulated in the thyroid gland. The only known roles of iodine in metabolism are its incorporation into the thyroid hormones, thyroxin (T4) and triiodothyronine (T3) and into the precursor iodotyrosines. Both the hormones have multiple functions in the energy metabolism of cells, in the growth, as a transmitter of nervous stimuli, and as an important factor in brain development.

Importance

Iodine, through the thyroid hormones, thus plays an important role in maintains the metabolic rate of body along with thermoregulation to keep body temperature steady and even. Thyroid hormones are also maintained the functions of lactation, muscle function, immune defense, normal blood and lymph circulation and seasonality of reproduction. It is also important and involved in the development of a fetus.

Forages-like white clover grasses, sea vegetables such as seaweed. Soil

	Species	Iodine req.(mg/Kg DM)
1.	Cattle	
	Dairy cows	0.5
	Beef cattle	0.4
2.	Sheep/goat	
	Non lactating	0.5
	Lactating	0.8

other food stuff like cereals, oilseed, fish meals, animal protein sources, milk, egg, water and Iodized salt are source of the iodine.

Iodine deficiency

- Decrease iodine salts intake in the diet & drinking water, high intake of calcium (Lime areas contain less iodine) results as deficiency of iodine in animals. It leads to decreased production of thyroxin and increases stimulation of the secretion of TSH hormone by the pituitary gland. If iodine level is continuously low in plasma then results in hypertrophy and hyperplasia of follicular cells and a considerable enlargement of the thyroid gland (Goiter).
- Excessive intake of some plants containing cyanogenic glycosides such as rape, linseed oil, kale & swage growth plants etc will results in decrease activity of thyroid epithelium causing decrease uptake of iodine by thyroid tissue.

There is important iodine deficiency disorder

- Hypothyroidism
- Goiter
- Reproductive disorders
- Decreased productivity (milk, meat, wool, eggs)
- Stillbirth
- Lower work output

Clinical findings

Palpable enlargement of the thyroid gland that occur with varying degrees in different animals, Partial or complete alopecia, High incidence of still birth & weak newborn, Thyroid thrill may palpated in jugular furrow



due to increase arterial supply to the gland, Loss of appetite, decrease milk production and loss of condition.

Iodine Toxicity

Iodine toxicity caused by may be long term consumption of iodine contain feed, incorrect management of feed mineral mixture or use of iodine compound feed additive for the therapy and prevention of infectious pododermatitis, respiratory diseases, actinomycosis, mastitis, and infertility. Excess Bromine and Fluorine can be toxic to Iodine uptake in organisms, as both can selectively replace iodine biochemically. Excess iodine can be more cytotoxic in the presence of selenium deficiency.

Clinical findings

Excess iodine has symptoms similar to those of iodine deficiency. Commonly encountered symptoms are abnormal growth of the thyroid gland and tachycardia, nervousness, loss of weight, high level of metabolism, occurrence of exophthalmos infectious diseases and respiratory disease.

Prevention and control of iodine deficiency disorder

The best treatment for iodine deficiency symptoms is prevention.

1. Should be normally using universal iodized salt in feed.
2. Should be use in normal doses either it will lead to deficiency or toxicity in animals.
3. Administration of iodized oil either in form of injection or capsule alternative of iodized salt option where it is not available & when endemic goiter is more severe.
4. Iodization of water supply in farms where distribution of iodized salt or injection of iodized

oil is impractical. It reduced the prevalence of goiter.

5. Dietary modification to include more of the food known to be good source of iodine e.g. sea food etc especially hilly areas because there soil deficient in iodine.
6. Good veterinary service should provide for early diagnosis & treatment of goiter and

hypothyroidism.

Conclusion

Optimal requirements of iodine in animals are necessary for optimal production of thyroid hormones. These hormones essential for the growth, reproduction, energy metabolism and health of the animals. Deficiency or toxicity both can alter the metabolism of animal's body. Prevention is the best



Swelling of thyroid gland (goiter)



Stillbirth of calf

Minerals Deficiency in Cattle



Anuj Kumar

Ph.D. Research Scholar, Department of Livestock Production and Management, College of Veterinary and Animal Sciences, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, 250 110, India

Corresponding author:
Email- drvetanuj@gmail.com

It is essential to provide cattle with the nutrition as it requires for excellent health to run a livestock farm. The provision of essential minerals like calcium, phosphorus, and potassium, among many others, is a component of a good nutrition programme. All cattle need minerals for basic body functioning and immune support, but growing cattle and cows that are either pregnant or lactating have an especially high need for minerals. Mineral deficiency in cattle can result in major health issues and in extreme cases death. If cattle are unable to obtain the necessary minerals from their grass or feed, they will require supplementation.

Sources

Pasture: Many of the minerals that cattle need for good health are frequently found in the grasses in a pasture. Ca and P are two nutrients that the rumen can easily break down and absorb from the plants that cattle graze and forage on.

Salt licks and loose salt: Plants and soils do not contain large amounts of some critical minerals. Typically, cattle require more sodium than they can get from their surroundings. While salt licks and loose salt are common options, they

frequently only offer little amounts of important minerals besides sodium.

Mineral supplements: Mineral supplements can help cattle acquire the minerals they need when they can't get them from their natural environment. They contain an extensive range of nutrients in addition to salt, so they offer a more balanced solution. Cattle can also receive the essential minerals they need through injections, pills, pellets, and drenches.

Calcium

The most prevalent mineral in cattle's bodies is calcium. Calcium is necessary for the growth and maintenance of bone and nerve tissue. It's crucial to control the calcium-to-phosphorus ratio in cattle. The optimal calcium to phosphorus ratio lies between 1.5:1 and 2:1. Whatever the precise ratio, the quantity of calcium that is consumed should be more than the amount of potassium that is consumed. Cattle lose some of their digestive tract's capacity to absorb calcium if they eat more potassium than calcium. They will instead metabolise it from their skeletons, which will make their bones brittle and they may also develop urinary

CATTLE FEED ESSENTIALS

Rations must contain:



Good quality forages



Grains



Proteins



Vitamins & minerals



calculi or kidney stones.

Sodium

For their muscles and nerves to work normally, cattle need salt. Additionally, this mineral supports the body's fluid equilibrium. Almost all cattle require sodium supplements, often in the form of salt licks or loose salt, unless the sodium chloride content in their water is exceptionally high or the plants the cattle consume have grown in salty soils. Cattle generally crave sodium and ingest it willingly.

Phosphorus

A cow's body contains phosphorus in various locations, and it is essential for the passage of energy. Additionally, it is necessary for strong reproductive health. Although older grass, drought, and winter conditions can all lower its levels, dietary phosphorus requirements for beef cattle are fortunately rather moderate, and good pasture will generally meet them. Fortunately, phosphorus is a mineral that cattle typically crave, just like salt, so phosphorus-containing pellets or licks will probably be tasty to most cows. Because cattle directly excrete phosphorus in their faeces, managing phosphorus provides a unique difficulty. Increased phosphorus levels in cattle faeces can result from overfeeding supplements.

Indicator of mineral deficiency in cattle

Cows with mineral deficiencies may have a range of negative effects. Here are a few indicators that cattle are not getting enough of specific minerals:

1. Reproductive problems

Mineral deficiencies in cattle can affect their ability to reproduce. These issues can include infertility, stillbirths, congenital defects in calf, quiet heats, or cows retaining their placentas after giving birth. These problems can be brought on by mineral deficiencies in phosphorus, zinc, selenium, and manganese. Male reproductive issues are considerably exacerbated by zinc deficiency.

2. Ill-Thrift

Calves are said to have ill-thrift if they develop more slowly than their peers. Mineral deficiencies are frequently the root problem. These calves may display an overall failure to thrive, even

becoming malnourished and profoundly debilitated, and are frequently smaller and weaker than their peers. These issues can be brought on by mineral deficiencies in cobalt, selenium, copper, and zinc, among others.

3. Insufficient Intake of Feed

In some circumstances, cows with mineral deficiencies eat insufficient feed to meet their metabolic needs. For instance, poor zinc absorption can make cattle stop eating their feed. Insufficient nutritional intake can subsequently result in a series of other health problems, such as slow growth and weak immunological function.

4. Problems with Bone Growth and Milk Production

Because phosphorus is one of the main building blocks of the skeletal system, deficits in this mineral, in particular, induce insufficient bone development and rigidity. Too little phosphorus may cause the bones of cattle to become mushy and more brittle than the bones of their counterparts. In particular, if the lactating cows have previously produced large amounts of milk that exhausted their mineral stores, lactating cows that consume too little phosphorus may likewise produce too little milk.

5. Immune deficiency

Cattle's immune systems frequently suffer when they don't get enough minerals. They develop a greater susceptibility to illnesses that healthier animals would be able to resist. Calves experience these problems more severely since their immune systems are still maturing in them, making them more susceptible to infection. Low immunological responses can result from mineral deficiencies such those in zinc, copper, and selenium.

6. Sudden death

Mineral deficiency occasionally leads to sudden death in cattle. If left untreated, magnesium and selenium deficiencies, which can both result in stunted growth and awkward stride, can also cause untimely death.

7. Pica

Deficiencies in phosphorus are the most prevalent cause of pica disorder when cattle eat nonfood objects like pebbles, bones, wood, plastic, mud, clay, rags, and

even the plaster from barn walls. In an effort to obtain phosphorus from the environment, cows with this illness may also attempt to lick the urine of other animals.

8. Gastrointestinal Distress

Although not the most frequent result of mineral deficiency, gastrointestinal symptoms like diarrhoea can occasionally happen. A copper deficiency, which can also result in reduced food intake and limited growth, can occasionally induce diarrhoea.

9. White Muscles disease

Calves are often affected with white muscle disease. It is a nutritional myopathy, and because of inadequate nourishment, it results in muscle weakening throughout the body. It can result in lethargy, an arched back, stunted growth, stiffness throughout the body, and occasionally heart deterioration and failure. This illness is sometimes brought on by a selenium shortage as well as a vitamin insufficiency in cattle, particularly a lack of vitamin E.

Conclusion

Dietary nutrition plays a significant role in any livestock development programme and the optimum expression of genetic potential for milk production in dairy cows depend on adequate supply of nutrients. Micronutrients, particularly the mineral elements are considered to be inevitable for the normal metabolic and physiological processes of animal systems. The importance of minerals in regulating biological systems, growth, production and reproduction is well documented, however, livestock in India do not receive mineral/vitamin supplements except for common salt and calcite powder. Hence, dairy cows depend on forages for their mineral requirements. Deficiency of macro and micro-minerals in the ration of dairy cows adversely affects growth, milk production and reproduction efficiency. It is essential to examine mineral concentrations in feeds offered to dairy cows in practical farms. It is necessary to supplement these deficient minerals through area specific mineral mixture in the ration of dairy cows for improving productivity and reproduction efficiency.

Unveiling the 2023 Budget: What it means for the Dairy Industry

The Union Budget is a crucial event in India's economic calendar, and this year's budget, presented by Finance Minister Nirmala Sitharaman, has generated a lot of buzz. The 2023 Union Budget has been dubbed as a growth-oriented budget, with a focus on reviving the Indian economy and supporting the country's development. In this cover story, we'll take a closer look at the key highlights of the budget and its impact on the dairy industry.

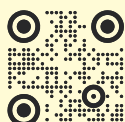
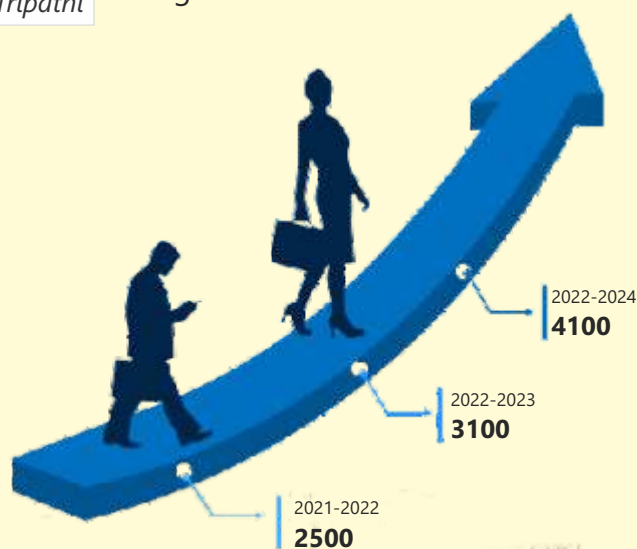
The agriculture credit target will be increased to 20 lakh crore with focus on animal husbandry, dairy and fisheries. With this backdrop, the government plans to implement a plan to set up massive decentralized storage capacity. This will help farmers store their produce and realize remunerative prices through sale at appropriate times. The government will also facilitate setting up of a large number of multipurpose 8 cooperative societies, primary fishery societies and dairy cooperative societies in uncovered panchayats and villages in the next 5 years.

I contacted Dr. Srijit Tripathi and Adv. Vijay Sardana after the budget was announced and had a good long talk with them. Dr Srijit Tripathi serves as Global Technical Manager at Vetline and brings with him eight years of industry experience. Dr Vijay Sardana has thirty years of experience in the industry.



Dr. Srijit Tripathi

On the overall view of the budget Dr. Tripathi said, "The central government since the inception of a separate ministry for Dairy, Animal Husbandry and Fisheries, has been focused towards the upliftment of the industry. This Amritkal budget with an allocation of ₹ 4327.85 Cr. has well recognised the sector's contribution towards



overall economic growth of the nation and therefore I appreciate the budget and hope the execution of the policies at ground level would also be ensured by the government."



Adv. Vijay Sardana

Adv. Sardana said, "The budget's been made with a lot of care. ₹ 6000 has been set up for animal

husbandry, The use of animal by-products in CNG production is brilliant." He then criticized the budget, " There have been no provisions for the quality of feed and fodder for animals. This is an issue we need to address."

Talking about Govardhan Yojana, Dr. Tripathi said, "This initiative focuses on waste to wealth and waste to energy objectives. It would not only increase the farmers' secondary income but would also lead to cleanliness in rural India. Vector-borne infections would also be reduced in villages and thereby public health would be better."

Then I asked at what price should the government buy manure from the farmers?

"Well, Any price would be less considering the present context of the Dairy Farmers. However, Under Indian conditions, a survey should be made in order to properly commercialize the by-products of a dairy farm as

well as to utilize cow dung not just as a manure but other alternatives as well in profitable ways."

Adv. Sardana had similar views, "The government should buy manures at market rate and should not try to fix rates. If this happens, it can turn into a political issue."

Aatm Nirbhar Bharat Abhiyan for enhancing India's manufacturing capabilities and Exports", this PLI scheme for the food processing industry has been formulated. It has an outlay of Rs. 10900 Cr. Inclusion of the Food Processing Industry into this scheme with increased allocation is a good strategic move by the government. The domestic manufacturers will gain from the scheme either in setting up new units or expansion of the existing ones. It will help towards employment generation and boost domestic production. Moreover, India has the competitive advantage in terms of huge market, resources availability and demand for value added products.

Dr Tripathi's views on vaccination programs for the sheep and the goat plague running under the Livestock Health and Disease Control Programme were optimistic. He said, "From time to time, the governments work towards the eradication of different contagious infections in livestock and poultry. The scheme is, Peste des Petits

Ruminants Eradication Program (PPR-EP). PPR is also known as sheep and goat plague. It is caused by a virus belonging to the genus Morbillivirus, family Paramixoviridae and is a highly contagious infection affecting small ruminants. PPR virus can infect nearly 90 percent of an animal herd, and the mortality may range anywhere up to 70 percent of infected animals. The annual losses due to PPR are estimated to be in billions and therefore its control and eradication has become the need of the hour. This component would be covering the entire sheep and goat population in the country under vaccination against Peste des Petits Ruminants i.e. Sheep and Goat Plague."

A decentralized storage system has been proposed for the farmers in the budget. When questioned how long will it take to accomplish such a humongous task Dr Tripathi said, "It has a major objective to help farmers store their commodities and sell at the right time to get a fair value of their produce. It will impact the vision of our Prime Minister to enhance the farmers income. The feasibility will depend upon a number of factors. Timeline for this needs to be understood but the good crucial part would be their establishment and proper execution so as to fulfill the exact objectives. I hope to see some visible developments during this five year plan itself."

Agri-Food Outlook | 2023



2023 Alltech Agri-Food Outlook Shares Global Feed Production Survey Data and Influencing Trends in Agriculture

The 2023 Alltech Agri-Food Outlook revealed global feed production survey data and trends.

Data collected from 12th annual global feed survey estimates world feed production remains steady with a slight decrease of 0.42% to 1.266 billion metric tons. Pet feed shows most significant growth while beef feed begins to moderate

Alltech released its 2023 Alltech Agri-Food Outlook on January 23rd, highlighting global feed production survey data. Despite significant macroeconomic challenges that affected the entire supply chain, global feed production remained steady in 2022 at 1.266 billion metric tons (BMT) in 2022, a decrease of less than one-half of one percent (0.42%) from 2021's estimates. The annual survey, now in its 12th year, includes data from 142 countries and more than 28,000 feed mills.

Europe bore the brunt of the impact, including significant disease challenges, severe weather and the impacts of the invasion of Ukraine. The global COVID-19 pandemic has had major impacts on the agri-food sector, contributing to supply chain challenges and accelerating the adoption of new technology and environmental sustainability practices.

The top 10 feed-producing countries over the past year were China (260.739 million metric tons [MMT]),

the U.S. (240.403 MMT), Brazil (81.948 MMT), India (43.360 MMT), Mexico (40.138 MMT), Russia (34.147 MMT), Spain (31.234 MMT), Vietnam (26.720 MMT), Argentina (25.736 MMT) and Germany (24.396 MMT). Together, the top 10 countries produced 64% of the world's feed production, and half of the world's global feed consumption is concentrated in four countries: China, the U.S., Brazil and India. Vietnam experienced a great recovery in terms of its feed tonnage in 2022, entering the top 10 ahead of Argentina and Germany and crowding out Turkey, which reported reduced feed tonnage. Russia overtook Spain, where there was a significant reduction in feed production.

Key observations from the survey:

- Feed production increased in several regions, including Latin America (1.6%), North America (0.88%) and Oceania (0.32%), while Europe decreased by 4.67%, Africa by 3.86% and the Asia-Pacific region also dropped 0.51%.



- Globally, increases in feed tonnage were reported in the aquaculture, broiler, layer and pet food sectors, while decreases were reported in the beef, dairy and pig sectors.
- Although it experienced a narrow reduction in feed production, China remains the largest feed-producing country in the world, followed by the United States and Brazil.

Notable species results:

- **Poultry** sector experienced increases in both layer and broiler feed production.
 - Avian influenza, other diseases and the high costs of raw materials affected the layer sector in many markets, especially in Asia, Europe and Africa. On the other hand, growth in the sector was boosted due to bigger challenges in other sectors that led to increased demand for eggs. Overall, layer-sector feed production increased by 0.31%.
 - While the overall tonnage in the broiler sector increased by 1.27%, there were significant differences from country to country. Overall, feed production growth in the broiler sector was reported mainly from the Middle East, North America and Latin America.
- **Pig** feed production was down globally in 2022 by almost 3%. ASF and high feed prices depressed pig production in many countries. However, in Vietnam, China, South Africa, Brazil and Mexico, better pork prices and other market conditions led to growth in the sector.
- **Dairy** feed tonnage decreased by 1.32%, mainly due to the high cost of feed combined with low milk prices, which caused farmers to reduce their numbers of cows and/or rely more on non-commercial feed sources. Some

exceptions included Ireland, where drought caused farmers to rely more on commercial feeds, and New Zealand, where milk prices were higher.

- **Beef** feed production decreased slightly by 0.34% globally. The downward trend continued in Europe, but increases were seen in almost all other regions. In Australia, the reduction in feed tonnage was a result of plentiful grass and not a reflection of any changes in the demand for beef.
- **Aquaculture** sector experienced a total global feed production growth of 2.7%. The Top 5 aquaculture feed countries are China, Vietnam, India, Norway and Indonesia. Significant increases were reported in China, Brazil, Ecuador, the Philippines and the U.S. Aquaculture feed production was one of a few sectors that saw growth in Europe.
- **Pet** feed production had the highest increase among the sectors, with a global average 7.25% rise in production. This significant increase is largely due to the rise in pet ownership amid the COVID-19 pandemic. North America and Europe continue to be the top pet feed-producing regions.

Notable regional results:

- **North America** reported an increase of 0.88% (2.272 MMT) and the U.S. remained the second-largest feed-producing country globally, behind China. Growth was reported in the broiler, beef and pet food sectors.
- **Latin America** experienced growth of 1.6% (3.066 MMT), and Brazil remained the leader in feed production for the region and ranked third overall globally. Most of the growth was reported by Mexico, Brazil and Chile.

- **Europe** saw the largest decrease in feed production of 4.67% (-12.882 MMT) in its feed production due to issues that include the invasion in Ukraine and the spread of animal diseases, such as African swine fever (ASF) and avian Influenza (AI).
- **Asia-Pacific** remained flat as decreases reported in China, Pakistan, Thailand and Malaysia were offset by increases in Vietnam, the Philippines, Mongolia and South Korea. The region is home to several of the top 10 feed-producing countries, including China, India and Vietnam.
- **Africa** experienced a decrease of 3.86% in feed tonnage (-1.718 MMT), mainly because of reductions reported in Egypt, Morocco, Kenya and Nigeria. South Africa, on the other hand, saw an increase of more than 2%, and Namibia also reported higher feed tonnage in 2022.
- The **Middle East** region is up significantly at 24.7% (6.301 MMT), as a result of more accurate reporting and efforts by the Saudi Arabian government to increase broiler production as part of its Vision 2030 plan.
- **Oceania** was flat, with a small reduction reported by Australia that was offset by a slight increase reported by New Zealand.

Alltech works together with feed mills and industry and government entities around the world to compile data and insights to provide an assessment of feed production each year. Compound feed production and prices were collected by Alltech's global sales team and in partnership with local feed associations in the last quarter of 2022. These figures are estimates and are intended to serve as an information resource for industry stakeholders.

To access more data and insights from the 2023 Alltech Agri-Food Outlook, including an interactive global map, visit alltech.com/agri-food-outlook.



DSM and Foundation Earth Partner to Promote Food Eco-labeling

Royal DSM, a global purpose-led science-based company, and Foundation Earth, an independent, nonprofit organization issuing front-of-pack Eco Impact scores on food products, announce their agreement to cooperate on eco-labeling of food and beverages to empower consumers to make more sustainable food choices based on transparent and credible information.

Within the new partnership DSM will undertake full Life Cycle Assessments (LCAs) for participating brands under the Foundation Earth method, enabling companies to access an aggregated eco impact score on their food and drink products, as well as an ecolabel that can be displayed on the front-of-pack. The scores delivered by Foundation Earth range from A+ to G and are re-certified yearly, making it possible for product owners to improve their production and grade over time.

The agreement means that agri-food companies joining Foundation Earth can now access DSM's Sustell™ service to measure and improve the environmental impacts of animal protein products (e.g. eggs, milk, fish and meat), based on accredited methodologies (e.g. EU PEF).

Developed by DSM with Blonk Consultants, Sustell™ is a first-of-its-kind intelligent sustainability service that delivers accurate, simple, and actionable farm-level solutions to improve animal protein production's

environmental footprint and profitability. By catalyzing sustainable value chains and enabling environmental transparency and supply chain to differentiate, Sustell™ helps producers achieve their sustainability commitments.

Cliona Howie, CEO at Foundation Earth, Foundation Earth: "At Foundation Earth we are always looking to extend our knowledge by partnering with diverse experts in the food sector. We are excited to join forces with DSM, who will allow us to scale our work and bring further expertise on Life Cycle Assessments for protein under the Foundation Earth method."

Ivo Lansbergen, Executive Vice President of Animal Nutrition and Health at DSM: "I firmly believe that nutrition and sustainability information are essential for consumers to make informed decisions. Primary, farm-level data is key to enabling all the players in the animal protein value chain to unlock new market opportunities and create a race to the top in terms of sustainability. Sustell™ makes it possible."



Eddy van Lierde Promoted to Global Head of Incubation Services



Edinburgh, Scotland. – Aviagen® is pleased to announce that Eddy van Lierde has been named Global Head of Incubation Services, effective from Jan. 2. A search has begun to fill his previous position as Incubation Specialist. Eddy will replace Dinah Nicholson, as she transitions to retirement. Dinah is still an integral part of the team.

In his new role, Eddy will lead Aviagen's team of global incubationists in their mission to provide the best support to customers around the world, as well as to Aviagen hatcheries and internal production operations.

One major focus for Eddy and his team is research, including incubation trials to provide the latest, relevant and practical advice. To ensure Aviagen hatcheries are equipped with the industry's most innovative equipment, the team works closely with incubator and hatchery automation companies. Another passion of Eddy and his team is teaching and inspiring future poultry professionals through hatchery schools and workshops.

Eddy commented, "I am excited to begin this new adventure with a dedicated group of people who are committed to our customers and our birds, and am proud to be part of their team. Chick health, welfare and performance begin in the hatchery, and what we do is essential to providing our customers with the robust stock they need to feed the world."

Years of dedication to incubation and hatchery progress

Eddy has served the global poultry industry for three decades. As Hatchery Specialist, he enriched Aviagen hatcheries and customer service teams in the US, Canada and Latin America with his knowledge and expertise.

Eddy's career with Aviagen began in 1995 when he joined Ross Poultry Ltd in New Zealand (now Aviagen New Zealand) and became involved with the incubation program, and later moved to Australia to become Hatchery Manager. Originally from Belgium, he attended the Japan Livestock Technology Association School, where he studied hatchery management and poultry husbandry.

Eddy will report directly to Aviagen Vice President of Global Technical Operations Dr. Bryan Fancher. "Eddy has done an outstanding job as Incubation Specialist, and will provide great leadership for the Global Incubation Services team," commented Bryan.

Amit Shah: “Every panchayat will have a dairy or a fishery co-operative society in the next five years”

Amit Shah, Union Home Affairs and Cooperation Minister, stated on Saturday that the Centre has made provisions and allocated adequate funds in the recently released Union Budget 2023-24 for the registration of more than 2 lakh multi-dimensional Primary Agricultural Credit Societies (PACS).

Shah said, "To encourage cooperation, Prime Minister Modi has included several schemes in the Union Budget. The previous tax of 26%, which was levied on production collaboration, has now been reduced to 15%. We have also established a Ministry of Cooperation to investigate which panchayats lack milk and fisheries society".

He added, "After the formation of the Ministry of Cooperation, we set up a data bank for Cooperatives across the country to identify which Panchayats do not have PACs, dairy, or a Fishery cooperative society,"

Ashwani Sawalia Re-elected as Chairman of AMAR Dairy

In an election held last week on

Thursday, Ashwani Sawalia was re-elected unopposed as chairman of Amreli District Cooperative Milk Producers Union (AMAR Dairy) along with his deputy chairman Mukeshbhai Sanghani. The deputy chairman is the younger brother of veteran cooperator Dileepbhai Sanghani who serves as chairman of both NCUI and IFFCO.

The elections for AMAR were held in 2020 for five years but according to the Gujarat State Cooperative Act Chairman and Vice-Chairman have to get elected midway—that is after every 2 and a half years.

The news was shared by the AMAR Dairy Director Dileepbhai Sanghani through his twitter wall, which was later on widely shared by his followers.

AMAR dairy is the one of the milk unions of GCMF which sells milk and milk products under the brand name of Amul.

Boosting Dairy Industry in J&K: Holistic Agriculture Development Program to focus on artificial insemination

Jammu and Kashmir is home to a thriving bovine industry, with about 31.45 lakh bovines the region accounts for 1.04% of India's total bovine population. Out of the total bovine population, 10.90 lakh cattle and buffaloes are considered breedable and have the potential to

contribute towards region's milk economy. As per ISS-2020-21, the annual milk production in J&K is 25.94 lakh MT and the average annual milk production per cow in the region stands at 2380 litre, which is higher than the national average. The milk economy in J&K is valued at ₹ 9080 cr which plays a crucial role in the UT's agri-economy. Dairy farming is a major source of livelihood for many rural families and is constantly growing, with a focus on increasing milk productivity under CSS-RGM, and improving the quality of milk besides upgrading of milk collection, processing and marketing infrastructure under CSS-NPDD. The dairy industry in J&K holds immense potential for UT's economy, providing employment opportunities and contributing to the local population's well-being. With the increasing demand for dairy products and the per capita availability of milk being lower than many milk potential states, the dairy sector is poised for significant growth in the UT in coming years. The J&K government has taken a major step towards boosting the agriculture and allied sectors with the recent launch of Holistic Agriculture Development Program (HADP). This comprehensive program was expertly drafted by a team of Technical Working Groups under the guidance of Agriculture Production Department, led by the distinguished scientist Dr. Mangla Rai, former DG of ICAR. The HADP is a comprehensive program that aims to address various challenges faced by the agriculture and allied sectors including dairy industry in J&K besides providing ample employment opportunities for the local population. The J&K government is committed towards supporting the dairy sector and ensuring its sustainable growth, thereby contributing to the overall economic development of the UT. The HADP encompasses 29 innovative projects, including a visionary plan for dairy development in J&K over next 5 years. This dairy development project focuses on one of the most critical components that is, increasing milk productivity through wider implementation of Artificial Insemination (AI) by involving private AI workers. By successfully executing this intervention, the J&K government hopes to achieve a remarkable growth in



average annual milk productivity, from 2380 litres to 4300 litres, by 2027. The use of Artificial Insemination in the dairy industry has been proven to be a highly effective tool to increase average animal productivity and contribute to the growth of the rural economy. By using AI, dairy farmers can benefit from efficient use of high-quality bulls, without being limited by their location. The advantages of using AI over traditional breeding with bulls are numerous, including improved efficiency, cost-effectiveness, reduced transmission of disease, and enhanced breeding efficiency. Despite various efforts, the current AI coverage in the UT of J&K is still limited to just 30 per cent of the breedable bovines. The AI coverage in the Kashmir division stands at 61 per cent, while it is only 17% in the Jammu division. In comparison, developed nations have 100 per cent AI coverage of their bovine population. The situation is even more concerning in districts like Reasi, Poonch, Rajouri, and Ramban, where the AI coverage is below 10%, despite the fact that 25% of the total breedable population of J&K is reared in these districts. Kupwara is the only district in Kashmir division which has lowest AI coverage, just 24 per cent. One of the major obstacles in expanding Artificial Insemination (AI) coverage in J&K is limited network of government-run AI centers and shortage of trained AI technicians. To address this, the Dairy Development Project aims to enhance the productivity of existing bovine population by increasing AI coverage through establishment of Multi Purpose Artificial Insemination Technicians in Rural India(Private AI workers). These private AI workers will deliver AI services to farmers at their doorstep on a self-sustainable basis by collecting the cost of goods and services. The project will directly benefit 1533 educated rural youth and approximately 7 lakh dairy farmers will receive indirect benefits in terms of increased productivity and milk production. At present, only 3.32 lakh breedable cattle are covered under AI and the project aims to bring 7.63 lakh cows under AI coverage within the next three years. To achieve 70% AI coverage over the next three years, the total AIs conducted will be increased by 10 per cent in the first year, 22 per cent in the second year and 8 per cent in the third

year on a year-to-year basis. The project aims to train a total of 1,533 young individuals from underprivileged and uncovered areas of Jammu and Kashmir as private Artificial Insemination (AI) workers. These individuals will be selected under HADP and CSS-RGM and will undergo training at an accredited AI training institute with a support of ₹30,000 per candidate. These trained private AI workers will be deployed in their respective villages to deliver AI services to the farmers over a period of two years. If a private AI worker conducts an average of 600 AI procedures in a year, they can easily earn ₹1.08 lakh from AI work alone, besides additional income from minor veterinary practices. With this project, the productivity of the bovine population in Jammu and Kashmir will be enhanced, providing indirect benefits to around 7 lakh dairy farmers in terms of increased productivity and milk production. The deployment of private AI workers in uncovered areas of J&K holds great potential for not only providing part time employment opportunities for rural youth but also for making veterinary healthcare and breeding services readily accessible to farmers. By utilizing quality germplasm, these AI workers will be able to upgrade the quality of non-descript low-yielding dairy animals in remote areas, resulting in production of superior dairy animals within a period of 5 years. This will lead to a significant increase in average annual milk productivity, reaching 4300 liters per dairy animal by 2027-28. The implementation of this project will provide a much-needed boost to the dairy sector in the uncovered areas of J&K, thereby contributing towards overall development of the region.

HDRF announces over £59,000 in new dairy research grants

The Hannah Dairy Research Foundation (HDRF) has announced three new research grants totalling £59,138 in its latest round of funding. The charity provides strategic funding to help

researchers develop projects that will be of direct relevance to dairy farmers in Scotland. The projects will be undertaken by Moredun Research Institute, Scotland's Rural College (SRUC), and the University of Glasgow.

In other news, the SRUC has filled ten veterinary-related posts as part of its development of a new School of Veterinary Medicine. Vivienne Mackinnon has been appointed as director of veterinary partnerships in the veterinary school's senior management team at the college. In addition, nine further posts – including head of interprofessional education, veterinary programme director, veterinary lecturers and veterinary senior lecturers – overseen by the new head of veterinary education professor, Jim Anderson, have been filled in preparation for the roll out of the new curriculum. Prof. Caroline Argo, dean of veterinary medicine and head of school, said: "These new foundation posts are vital in supporting our growth agenda in this essential area."

Karimnagar Dairy chairman inaugurates three parlours in Nizamabad district

Rajeshwar Rao, chairman of the Karimnagar Milk Producers Company Limited also known as Karimnagar Dairy, has formally inaugurated three dairy parlours in Armoor, Lingampet and Domakonda. As part of the expansion of the dairy and increase of sales of Karimnagar Dairy milk and milk products, the Karimnagar dairy has opened three new dairy parlours in the erstwhile Nizamabad district making it a total of 64 dairy parlours in the Telangana state. Speaking on the occasion, Mr Rajeshwar Rao said that there was high demand across the Telangana state for the nutritious, pure and clean milk procured from the farmers of the milk producing institutions. Accordingly, they were opening new dairy parlours to make available the Karimnagar Dairy products at the doorstep of the consumers, he added. He also called



upon the people to try the Karimnagar dairy products and encourage the milk producing farmers of the state. Stating that the milk production and its sales played a crucial role in the agrarian economies in the Telangana state, he called upon the farmers to take up dairy units as alternate and regular source of income along with agriculture. Managing Director P Shankar Reddy, Marketing Manager T Rajashekhar Reddy, marketing team Jaganmohan Rao, Vishnu, Kamareddy manager Sai Kumar and others were also present.

Kerala intends to pass legislation to ensure the quality of poultry and cattle feed

Animal Husbandry Minister J. Chinchurani said in the Assembly on Monday that the State government will soon introduce legislation to ensure the quality of cattle and poultry feed sold in the state, with punitive provisions to hold those found responsible for bringing adulterated feed into the market accountable.

In response to a question about the recent deaths of cattle in the state as a result of contaminated feed, she stated that 657 cattle across the state had become seriously ill as a result of consuming adulterated cattle feed sold by KS Feeds. There were 245 cattle affected in Kottayam alone. In total, eight

cows had died in the state as a result of feed contamination.

Ms. Chinchurani indicated that farmers who had insured their cows would receive a new cow to replace the one lost, whilst others will receive only \$15,000 from the department's contingency fund as compensation.

She stated that a police report had been filed in connection with the feed contamination, and that additional investigations were underway. Postmortem examinations of the cows, analysis of samples collected by the veterinary surgeon, and samples of feed were sent to the Chemical Analysis Lab.

Mother Dairy raises full-cream, toned milk prices in Delhi-NCR by Rs 2 per litre

Mother Dairy has raised milk prices in the Delhi-NCR market by Rs 2 per litre, citing



an increase in input costs. Mother Dairy is one of the largest milk suppliers in Delhi-NCR, with daily volumes exceeding 30 lakh litres. Mother Dairy has raised full-cream milk prices by Rs 2 to Rs 66 per litre, while toned milk prices have been raised to Rs 53 per litre from Rs 51 per litre.

The price of double-toned milk has been raised to Rs 47 per litre from Rs 45 per litre. Mother Dairy has decided not to raise the prices of cow milk and token milk variants (bulk vended). Milk price increases will have an impact on household budgets. Mother Dairy attributed the price increase to an increase in the company's raw milk procurement cost from dairy farmers. "The dairy industry is having an unprecedented year. Even after festivals, we have seen a significant increase in demand for milk and milk products from both consumers and institutions. On the other hand, raw milk procurement has not increased as expected after Diwali," said an official from the company.

According to the report, raw milk procurement prices have risen by about 24% in the last year due to higher input costs and heat wave conditions. "This pressure on raw milk prices is felt throughout the industry, putting pressure on consumer prices. We are severely constrained to revise consumer prices of select variants of milk in Delhi NCR effective December 27, 2022, as part of our commitment to continue paying remunerative prices to farmers to mitigate the impact" said Mother Dairy.

The company stated that as a responsible organization, it has always attempted to strike a proper balance between farmers and consumers. "...as a result, we have been passing on the increased input cost to our consumers in stages and on select variants." Mother

Dairy passes on approximately 75-80% of the prices paid by consumers to milk producers.

In the current fiscal year, the company has implemented several rounds of price increases. The most recent increase occurred on November 21, when it raised full-cream milk prices by Rs 1 per litre and token milk prices by Rs 2 per litre in the Delhi-NCR market. Previously, in October, Mother Dairy raised the price of full-cream milk and cow milk by Rs 2 per litre in Delhi-NCR and some other North Indian markets. Rates for all variants were raised by Rs 2 per litre in both March and August last year.

Gujarat Cooperative Milk Marketing Federation (GCMMF), which markets milk under the Amul brand, is also a major player in the Delhi-NCR market. It sells nearly 40 lakh litres per day. Milk output in India, the world's largest producer, is around 210-220 million tonnes annually.

Shifting of dairies still a distant dream in Karnal

Dairy relocation appears to be a distant dream, as dairy owners are unwilling to relocate their units on the Pingli road despite the passage of several deadlines. Only three dairy owners have relocated, and construction of a few more is underway, but a large number of dairies continue to operate in the city, clogging the sewerage system.

According to data gathered by The Tribune, there are 231 plots of varying sizes on the Pingli road, where the KMC claims to have spent crores on infrastructure such as roads, streetlights, water, sewerage, and electricity connections, among other things. According to a 2020 KMC survey, there were 188 operational dairies in the city, with 113 dairy owners purchasing plots.

Around 20 dairy owners have completed their construction up to the lintel level, while nearly 50 have abandoned the project after the boundary wall was completed.

The dairy owners blamed the KMC for failing to provide them with facilities. The

roads are in poor condition, and they do not have electricity, according to a dairy owner, who added that he had applied for an electricity metre, but it was not provided. The KMC was supposed to do up to 3 feet of earth-filling work, but it was not done in a large number of plots, he added.

Arun Bhargava, Deputy Municipal Commissioner of KMC said, "The construction work is going on due to which there could be road issue, but the basic facilities have been provided there. We are also monitoring the shifting work regularly."

The relocation of dairies is a long-standing issue in the city. It was announced first by the INLD government in 2002, then by the Congress government, and finally by Chief Minister Manohar Lal Khattar after assuming power. In 2002-03, the Karnal Municipal Corporation (then Municipal Council) began the process of acquiring 32 acres in Pingli village.

Product Differentiation is the system is part of the Taiwan's Council of Agriculture's plan to distinguish domestically produced dairy products from the imported kind

The Taiwan's Council of Agriculture said it is developing isotope distinguishment technology, which, combined with "big data," would differentiate the production location of dairy products. The plan was made due to concerns about the impending removal of tariffs for Taiwanese imports of New Zealand beef, lamb and dairy products — as a result of the Agreement between New Zealand and the Separate Customs Territory of



Taiwan, Penghu, Kinmen and Matsu on Economic Cooperation (ANZTEC) — would significantly affect domestic dairy and meat markets, the council said. ANZTEC, signed in 2013, removed tariffs on a set amount of liquid dairy products — 5,500 tonnes as of 2013 — and adds a charge of NT\$14 for every kilogram exceeding that amount. It was agreed that the allocated amount of tariff-free products would increase by 1,500 tonnes every three years until 2025, when quotas would be removed. As of last month, Taiwan has imported 103,562 tonnes of dairy products, a 9.2 percent increase compared with the same period last year, the council said. It also said it plans to encourage domestic dairy quality, match domestic dairy production to market needs and step up measures to distinguish local and imported dairy products. Over the past decade, domestic dairy production has increased from 320,000 tonnes to 430,000 tonnes, the council said. Due to high domestic demand, dairy farmers have been known to produce amounts exceeding the quota, and contracted processing companies have been more than willing to purchase the excess, it said. However, as the domestic dairy market is becoming saturated and the nation's economic environment is causing public spending to turn conservative, processing companies are demanding that dairy producers observe the output quotas. There are standard certifications for milk, but they could be improved to differentiate local and imported dairy products, the council said, adding that it is developing a system to do so. The council said that the system, which has been trialed for two years, has a 90 percent accuracy rate in differentiating the origin country of dairy products, and it can also determine whether milk is fresh or made from powder. The system is almost complete,

and can be used to inspect pork and chicken meat to identify the country of origin, it said, adding that Taiwan would provide product origin information on packaging.

Tenders have been issued for Aavin's 18-crore dairy in Acharapakkam

Aavin will open a new dairy in Chennai. The 18 crore dairy with a capacity of one lakh litres per day will be built in Acharapakkam, Chengalpattu district. The project is being funded by NABARD.

Contractors have been invited to submit bids. This will be the fifth serving the city. The dairy will include, among other things, silos, raw milk chillers and storage facilities, milk pasteurizers, a reconstitution section, butter and ghee making sections, and a fat recovery section.

According to Aavin officials, a bulk milk cooler already exists on the six-acre plot of land owned by the Tamil Nadu Cooperative Milk Producers Federation. This was announced during the State Assembly's Budget session.

An official said, "It will take around 12-18 months to construct the building and install equipment. Once the work is over, we can provide milk processed locally to areas in and around Acharapakkam, which will reduce transportation cost. At present, we bring milk from Villupuram for supply. It will provide jobs to local residents."

The official added, "After the dairy is up and running, we are looking at the possibility of establishing a product dairy and fermented products plant there since at present we are supplying these milk-based products either from Villupuram or Ambattur dairies to Chennai, Kancheepuram, Tiruvallur and Chengalpattu districts."

Work to establish a fermented products plant at Kakkalur in Tiruvallur is nearing completion and is likely to be ready by March.

US dairy policies drive small farms to 'get big or get out' as monopolies get rich



Two decades of misguided US dairy policies centered around boosting milk production and export markets have hurt family-scale farms and the environment while enriching agribusinesses and corporate lobbyists, new research has found.

The average American dairy turned a profit only twice in the past two decades despite milk production rising by almost 40%, according to analysis by Food and Water Watch (FWW) shared exclusively with the Guardian.

More milk has not meant more profits for most farmers – or cheaper prices for American shoppers – because production costs have risen while milk prices have remained low so US exporters can compete on the global market.

In the past 20 years, US dairy exports rose eightfold – more than almost any other commodity – which has coincided with rapid consolidation across the industry, according to the FWW report.

The US Dairy Export Council (USDEC) claims booming exports have helped farms of all sizes, but two-thirds of family-sized commercial dairies were lost between about 1997 to 2017 as factory farms, exporters and a handful of powerful cooperatives came to dominate dairy. Trade association executives are making huge salaries as ordinary farms go under.

Dairy monopolies are also bad news for the climate. Even though the number of cows remains stable, planet-warming methane emissions from dairy manure

have more than doubled since 1990, thanks to the way factory farms manage waste, the FWW report found.

It warns of a vicious circle in which economic hardship caused by low and volatile milk prices is driving family-scale farmers to "get big or get out". In other words, the only way for many ordinary farms to survive is to expand their herds and factory farm which increase greenhouse gas emissions and endanger air and water quality – or sell-up to mega-dairies that do the same.

"The big picture of the economic cost of dairy consolidation is that it's a story filled with the incredibly orchestrated and devastating farmer loss and hardship, and a worsening environmental outlook," said Rebecca Wolf, food policy analyst at FWW. "But it wasn't always this way, and it doesn't have to be this way ... we have to reject false solutions and instead reform policies to support farmers, the environment and the US economy."

Consolidation in the US dairy industry has occurred at a faster pace than in every other agricultural sector apart from hog and egg production. It's happening at both the farm level – fewer farms, more mega-dairies – and at the processing level – fewer but larger corporations and cooperatives that purchase, process and market dairy products.

Nationally, the total number of US dairy farms fell by more than half between 1997 and 2017, while the average number of cows per farm increased by 139%, according to analysis of USDA data. More than 70% of US milk is produced on farms with at least 500 cows, with the largest dairies boasting herds of more than 25,000.

Larger farms are less likely to graze their cattle, instead relying on purchased feed – the single largest source of greenhouse gases from industrialised agriculture. In addition, factory farms store manure in liquid form which encourages the release of methane – unlike field cattle whose manure decomposes with minimal emissions.

Methane is a short-lived but powerful heat-trapping gas that accounts for about a third of the rise in global temperature since the pre-industrial era

– and nearly 45% of warming today. Livestock – through cattle burps, manure management and the cultivation of feed crops – is responsible for nearly a third of the global manmade emissions.

In recent years, as scientists have warned about the oversized role played by industrial farming in global heating, agribusinesses including dairy have looked towards unproven industry-led fixes like carbon offset markets and feed additives to lower the methane content in cow burps, rather than addressing the main problem, which is factory farming large herds.

A factor driving dairy farm consolidation is declining returns.

Farmers have struggled to break even due to production costs rising faster than milk prices – which were slightly lower in 2021 compared with 2000. This is partly due to a major shift in US dairy policy away from price stabilization achieved through minimum price guarantees and buying and storing excess milk that would be donated or resold to manage oversupply, to one that encourages production and expanding export markets.

The policy shift – which includes promotion of dairy products in developing countries – helped the US become one of the largest dairy exporters in the world. As exports rose, so did price swings, and in order to stay competitive, US milk prices stayed low.

“This lined the pockets of agribusinesses while leaving farmers captive to volatile international markets ... Clearly, export-focused policies have not improved the welfare of the average US dairy farmer,” according to the FWW report.

The dairy industry – which includes individuals and PACs linked to farmers, manufacturers and cooperatives – made \$5.1m in federal campaign contributions during the 2020 election cycle, according to Open Secrets, the transparency watchdog. In the same year, the industry spent \$6.9m to influence Washington, lobbying hard to protect corporate subsidies among other benefits in the farm bill.

“The get big or get out push from our political and industry leaders has come true, and enabling this concentration has

led to the withering of small and medium farms – and had a crushing impact on rural communities across the US,” said Sarah Lloyd, a dairy farmer in Wisconsin who helps run the family's midsize farm with 450 cows. “Farms that have hung for a hundred years can no longer keep their heads above water due to this boom and bust system, opening up more space for consolidation ... It's a vicious cycle.” (Source: The Guardian)

USA Agriculture Department offers additional assistance for dairy

The U.S. Department of Agriculture has announced the details of additional assistance for dairy producers, including a second round of payments through the Pandemic Market Volatility Assistance Program (PMVAP) and a new Organic Dairy Marketing Assistance Program (ODMAP).

The update to PMVAP and the new ODMAP will enable USDA to better support small- and medium-sized dairy operations that weathered the pandemic and now face other challenges, according to a news release from Coffin, MaryAnne, USDA Farm Service Agency, Bangor.

PMVAP assists producers who received a lower value because of market abnormalities caused by the pandemic and ensuing federal policies. As a result of the production cap increase, USDA's Agricultural Marketing Service will make PMVAP payments to eligible dairy farmers for fluid milk sales between 5 million and 9 million pounds from July-December 2020. This level of production was not eligible for payment under the first round of the PMVAP.

Payment rates will be identical to the first round of payments, 80 percent of the revenue different per month, on fluid milk sales from 5 million to 9 million pounds from July-December 2020. USDA will again distribute monies through agreements with independent handlers and cooperatives, with reimbursement to handlers for allowed administrative costs. USDA will contact handlers with

eligible producers to notify them of the opportunity to participate.

As part of the first round, PMVAP paid eligible dairy farmers on up to 5 million pounds of fluid milk sales from July-December 2020. The first round of payments distributed more than \$250 million in payments to over 25,000 eligible dairy farmers. These dairy farmers received the full allowable reimbursement on fluid milk sales up to 5 million pounds.

The new ODMAP, to be administered by USDA's Farm Service Agency, is intended to help smaller organic dairy farms that have faced a unique set of challenges and higher costs over the past several years that have been compounded by the ongoing pandemic and drought conditions across the country.

Many small organic dairy operations are now struggling to stay in business, and FSA plans to provide payments to cover a portion of their estimated marketing costs for 2023. Final spending will depend on enrollment and each producer's projected production, but ODMAP has been allocated up to \$100 million.

The assistance provided by ODMAP will be provided through unused Commodity Credit Corporation funds remaining from earlier pandemic assistance programs. The assistance will help eligible organic dairy producers with up to 75 percent of their future projected marketing costs in 2023, based on national estimates of marketing costs. This assistance will be provided through a streamlined application process based on a national per hundredweight payment.

Payments will be capped at the first five million pounds of anticipated production, in alignment with preexisting dairy programs that target assistance to those smaller dairies that are most vulnerable to marketing challenges. This program is still in development. (Source: CentralMaine)



Celebrate February 14 as 'Cow Hug Day': Animal Welfare Board



While February 14 is usually celebrated as Valentine's Day across the globe, the Animal Welfare Board of India (AWBI) has reportedly requested that it also be celebrated as 'Cow Hug Day'! Not only this, but the statutory advisory body also urged the public in India to embrace cows on this day, claiming it would increase "individual and collective happiness" and bring "emotional richness."

In an appeal penned by AWBI secretary Dr. Sujit Kumar Dutta, the body noted that cows are the backbone of the rural economy and Indian culture and represent biodiversity and cattle wealth. "It is known as Kamdhenu and Gaumata because of its nourishing nature like a mother, the giver of all, providing riches to humanity," The Hindu quoted the official appeal as saying.

The appeal also claims Vedic traditions are currently facing extinction because of the progress of western culture in the country over time. "The dazzle of western civilization has made our physical culture and heritage almost forgotten. This issues with the approval of competent authority and on the direction of Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying," it added.

Speaking to the Times of India, AWBI assistant secretary Prachi Jain stated that this is just an appeal to people who love cows. "We have not planned any special event around it on the occasion due to paucity of time this year," Jain said. "But the board may plan some events around it from next year," the AWBI assistant secretary added.

Meanwhile, dairy farmers alleged that the animal welfare body did not even

assist them when hundreds of cows recently lost their lives due to lumpy skin disease. "Where was the AWBI when our cows died recently? We have not got anything as compensation. The milk production has decreased by about 15 to 20%," said Dayabhai Gajera, leader of the Dairy Farmers Federation of India.

In December last year, the Centre informed the Rajya Sabha that more than 1.55 lakh cattle died in India due to lumpy skin disease. According to official statistics, Rajasthan reported the highest number of cattle deaths at 75,819. It was closely followed by Maharashtra (24,430), Punjab (17,932), Karnataka (12,244), Himachal Pradesh (10,681), Gujarat (6,193), Haryana (2,937), and Jammu & Kashmir (2,698).

Since its official integration in 1962 under Section 4 of the 1960 Prevention of Cruelty to Animals Act, the Animal Welfare Board of India has been responsible for providing grants to animal welfare organizations and advising the Union Government regarding such matters. However, an appeal of this kind has been issued by the body for the first time!

Doctor Didi is creating social capital in rural Jharkhand



In Agra village, about 45 km from Ranchi, Janu Devi, 27, dressed in her blue sari uniform, is excited about the ice box she has just received. She's one of five pashu sakhis (friend of the animals) in Jharkhand's Tamar block office to get the box that stores vaccination vials for goats, poultry, and pigs.

Ms. Devi is part of a team of about a thousand women across all 24 districts of Jharkhand, recruited since October 2013, for last-mile coverage of livestock management.

These women, formally called community animal care service providers and informally known as 'doctor didis', go door to door when called. They advise farmers about health check-ups for their livestock, vaccinations, de-worming, hygiene, breeding, feeding, and the management of animal waste.

The project, conceived under the National Rural Livelihoods Mission, was taken under its wing by the Jharkhand Opportunities for Harnessing Rural Growth in 2017-18 and the World Bank began funding it. World Bank data suggest there are now up to 57,000 farmers who benefit.

"With the help of the pashu sakhis, the mortality rate of goats has come down by about 30%, and of poultry by 40%," said Pravin Singh, a senior official in the Jharkhand State Livelihood Promotion Society, a unit of the State's Agriculture department.

The pashu sakhis are put through a three-level 30-day training programme over seven-day tranches on how to take care of poultry, goats, and pigs. About 30 pashu sakhis have also been trained with 45 days of additional training in livestock management. These are the master trainers.

"Up to 70% of those trained have been certified by the Agriculture Skill Council of India, which guarantees a high common standard of services," said Tapas Ranjan Behera, the State's head for skills, jobs, and enterprise.

January 2023

- 1. Dairy Forum 2023 (IDFA)**
Dates: January 22 - 25, 2023
City: Orlando
Country: Florida
Website: [www..idfa.org/events](http://www.idfa.org/events)
- 2. DairyTech**
Dates: January 25 - 27, 2023
Venue: Crocus Expo International
City: Moscow
Country: Russia
Website: www.dairytech-expo.ru
- 3. IDEX 2023**
Dates: January 28 - 29, 2023
Venue: Expo Center
City: Lahore
Country: Pakistan
Website: www.internationaldairyexpo.com

February 2023

- 1. Agroexpo**
Dates: February 1 - 5, 2023
City: Izmir
Country: Turkey
Website: en.agroexpo.com.tr
- 2. Dairy and Poultry Expo**
Dates: February 2 - 4, 2023
Venue: International Convention City Bashundhara
City: Dhaka
Country: Bangladesh
Website: www.limraexpo.com
- 3. GulFood**
Dates: February 20 - 24, 2023
Venue: Dubai World Trade Centre
Country: Dubai
Website: www.gulfood.com

April 2023

- 1. Canadian Dairy EXPO 2023**
Animal husbandry
Dates: April 5-6, 2023
Venue: Stratford, Canada
City: Stratford
Website: <https://ifw-expo.de/en/exhib/canadian-dairy-xpo>

June 2023

- 1. DLP EXPO Africa Dairy LiveStock and Poultry Expo**
Dates: June 15-17, 2023
Venue: KICC, Nairobi, Kenya East Africa
City: Nairobi
Website: www.dlpexpo.com

August 2023

- 1. The Dairy Expo @ The Livestock Expo**
Dates: August 3-5, 2023
Venue: India Expo Center & Mart
City: Greater Noida - Delhi
Country: India
Email: info@thedairyexpo.in
Website: www.thedairyexpo.in

October 2023

- 1. World Dairy Expo**
Dates: October 1 - 6, 2023
Venue: Madison
City: Wisconsin
Country: USA
Website: www.worlddairyexpo.com

Editorial Calendar 2023

Publishing Month: January Article Deadline : 30th, Dec. 2022 Advertising Deadline : 3rd, Jan. 2023 Focus : Climate Management	Publishing Month: February Article Deadline : 30th, Jan. 2023 Advertising Deadline : 3rd, Feb. 2023 Focus : Nutritional Deficiency Effects	Publishing Month: March Article Deadline : 28th, Feb. 2023 Advertising Deadline : 3rd, March 2023 Focus : Herd / Breed Management - Fertility, Breeding & Reproduction	Publishing Month: April Article Deadline : 30th, March 2023 Advertising Deadline : 3rd, April 2023 Focus : Disease Prevention/ Risk Assessment
Publishing Month: May Article Deadline : 30th, April 2023 Advertising Deadline : 3rd, May 2023 Focus : Small Ruminants Management (Sheep, Goat etc)	Publishing Month: June Article Deadline : 30th, May 2023 Advertising Deadline : 3rd, June 2023 Focus : Calf & Heifer Management	Publishing Month: July Article Deadline : 30th, June 2023 Advertising Deadline : 3rd, July 2023 Focus : Milk Production Management/ Milking Practices	Publishing Month: August Article Deadline : 30th, July 2023 Advertising Deadline : 3rd, August 2023 Focus : Feed & Fodder
Publishing Month: September Article Deadline : 30th, August 2023 Advertising Deadline : 3rd, September 2023 Focus : Vaccination Protocols/ Cattle Herd Immunization	Publishing Month: October Article Deadline : 30th, September 2023 Advertising Deadline : 3rd, October 2023 Focus : Dairy By-products	Publishing Month: November Article Deadline : 30th, October 2023 Advertising Deadline : 3rd, November 2023 Focus : Potential of Dairy Farming	Publishing Month: December Article Deadline : 30th, November 2023 Advertising Deadline : 3rd, December 2023 Focus : Calf Management

Subscription Rates

Time Period

1 Year	INR 2400	USD 250
3 Year	INR 6500	USD 650
5 Year	INR 10000	USD 1000

*18% GST Extra

Contact Name : _____

Company Name : _____

Postal Address : _____

City : _____ State : _____ Mob. No. _____

Postal Code : _____ Country : _____

We wish to subscribe the following

Poultry Planner

1 Year 3 Year 5 Year
from _____ to _____

Dairy Planner

1 Year 3 Year 5 Year
from _____ to _____

Poultry Times of India

1 Year 3 Year 5 Year
from _____ to _____

Grand Total: _____

Payment Details:

Send DD or Cheque in favour of Pixie Consulting solutions Ltd. payable at Karnal
 Address: C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump,
 KARNAL - 132001 (Haryana) INDIA or Transfer money to HDFC Bank
 Bank address: Opp. Mahavir Dal Hospital
 Account Type: Current
 Account Name: Pixie Consulting Solutions Limited
 Account Number: 01958730000179
 IFSC Code: HDFC0000195 | Swift Code: HDFCINBB | PAN No. AAACP6186B

For more detail, contact:



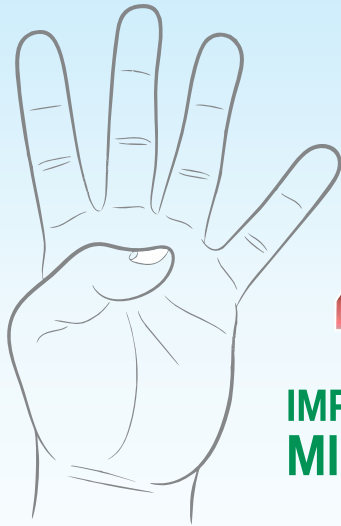
Pixie Consulting Solutions Ltd.
 C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump,
 KARNAL - 132001 (Haryana) INDIA
 Email : poultry.pcsl@gmail.com | editor.pcsl@gmail.com
 Website : www.pixie.co.in
 M: +91 999 170 5007 | 7419993009

Date: _____ Company's Stamp & Signature

By signing this form I acknowledge that I have read and agree to the quoted cost above

*5% GST Extra **Advertisement Tariffs**

Advertisement Type	Single Issue (cost @)	Advertisement Type	Single Issue (cost @)
Front Page	45000 <input type="checkbox"/>	Back Title	30000 <input type="checkbox"/>
Front Gate Fold	45000 <input type="checkbox"/>	Back Gate Fold	30000 <input type="checkbox"/>
Front Title Inside	30000 <input type="checkbox"/>	Back Title Inside	25000 <input type="checkbox"/>
Front Title Opening	25000 <input type="checkbox"/>	Back Title Opening	20000 <input type="checkbox"/>
Full Page	12000 <input type="checkbox"/>	Center Spread	35000 <input type="checkbox"/>



4 WAY ACTION FOR IMPROVED DIGESTION & MILK PRODUCTION

- 1 Increased Salivary Secretions
- 2 Improved Micro flora Number & Activity
- 3 Optimum Rumen pH
- 4 Increased Rumen Motility



BOOST THE RUMEN FUNCTION WITH



RUCHAMAX®

APPETITE STIMULANT AND DIGESTIVE TONIC



Corporate Office: Unit No.101-103, 1st Floor, KM Tower, Plot No. H-3, Sector-14, Kaushambi, Ghaziabad-201010 (U.P.) •Tel.: +91-120-7100201 •Fax: +91-120-7100202 •e-mail: customercare@ayurved.com • website: www.ayurved.com • CIN No. U74899DL1992PLC050587

Regd. Office: 4th Floor, Sagar Plaza, Distt. Centre, Laxmi Nagar, Vikas Marg, Delhi-110092, India



Event by:



THE Dairy EXPO

Exhibiting The Future of Dairy Industry

03-05 AUGUST 2023

India Expo Center & Mart,
Greater Noida, Delhi-NCR, India

For Any Query:

Pixie Expo Media Pvt Ltd.

C/O Omang Hotel, Namaste Chowk,
Karnal-132001, Haryana

✉ info@thedairyexpo.in

☎ 741999 3009 | 999 170 5007

Media Partner



Supported by



www.thedairyexpo.in