Provet

*Excellence through Innovation*

JULY 2023

# PROPULSE

## Provet Opens its First Diagnostic Lab for Aqua in Moyna, West Bengal


# ProServe Aqua Lab

**Providing Better Services to Aquaculture Farmers**

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- Optimal gut microflora
- Reduction in FCR
- Better immunity & disease resistance
- Wholesome meat & eggs
- Improvement in profits

# Technical Meeting Avinova-Midnapore

Provet organised a Technical Meeting at Hotel Jack Paul, Midnapore, on June 21, 2023. Leading Broiler, Layer and Breeder Farmers attended the meeting. **Mr. Madan Mohan Maity**, Managing Director, Maity Poultries & General Secretary, West Bengal Poultry Federation, was the Chief Guest. **Dr. B.C. Dutta**, leading poultry health expert with an experience of more than 39 years in the poultry industry, delivered the key note presentation on **"Current Disease Challenges and Optimization of Production Cost"**. The audience discussed their practical issues and sought his technical help and suggestions during the customer interaction session. The program was very well organized by Mr. Saikat Banerjee, Sr. SE, Garbeta, and Mr. Kartick Dasgupta, ASM East and was appreciated by the delegates.

The technical session ended with gala dinner and networking.


Kartick Dasgupta welcoming the audience

Praveen Kumar honouring Mr. Madan Mohan Maity

Praveen Kumar honouring Dr. Kinsuk Maity, Asst. Dir (ARD)


Mr. Madan Mohan Maity & Dr. B.C. Dutta interacting with the audience

Audience during Technical Session

Audience during Technical Session


Provet Team with Leading Layer Farmers

Dr. Sulav Chetia & Praveen Kumar with Dr. B.C. Dutta

# CUSTOMER GROUP MEETINGS-AVINOVA


CGM at Washi, Maharashtra - 23rd June, 2023


CGM at Pollachi, Tamil Nadu - 22rd June, 2023


CGM at Raipur, Chhattisgarh - 29th June, 2023


CGM at Royal Feeds,Hadgul, Anand, Gujarat - 27rd June, 2023


CGM at Narmada Poultry Farm, Nashik, Maharashtra - 26th June, 2023

CGM for farmers of Sur Feeds and Suguna at Basirhat, West Bengal - 30th June, 2023


CGM at Garbeta, West Bengal - 30th June, 2023

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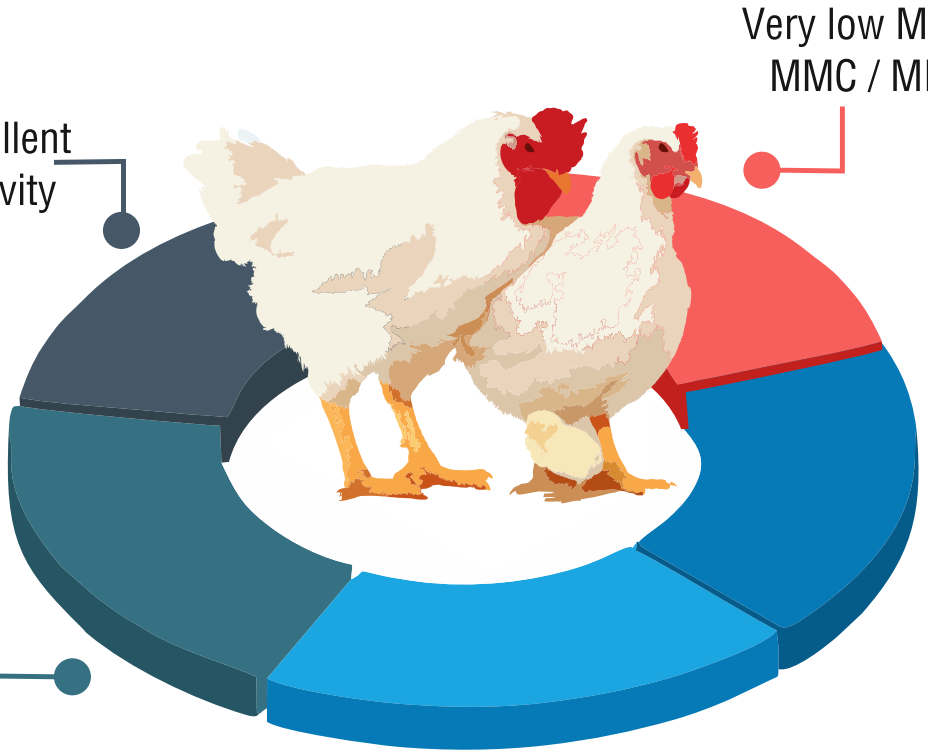


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# Proserve Aqua Lab at Moyna, West Bengal

Provet Pharma Private Limited established the Proserve Aqua Lab, with a goal on providing better services to aquaculture farmers. The lab is established in Moyna, which is the hub for fish production in West Bengal.


The Proserve Aqua Lab was officially inaugurated at Moyna, East Medinipur District, West Bengal on June 12, 2023. Dr Suryakanta Sahoo, Assistant Professor of Aquaculture at WBUAFS, and Debtanu Barman, CEO of Aqua Doctor Solution, lit the lamp to officially open the lab in front of other eminent specialists. They graciously received the warm greetings of Blunova employees, and their presence added vibrancy to the event. They wished for us to advance steadily in our fields of endeavour.

Proserve Aqua Lab is the first laboratory in Moyna with a well-equipped laboratory space. The lab offers a range of services, including fish parasite examination; helpful and dangerous plankton identification; and chemical and microbiological study of water. The farmer will receive a printed copy of the entire lab report along with our expert's technical guidance at the same time.

The lab will assist farmers by providing better management advice and the most effective treatment for disease situations, which may otherwise result in significant losses.

The programme attracted a sizable audience of over 150 individuals, among them well-known consultants, farmers, and entrepreneurs with shared interests. The team did not miss an occasion to inform them about the lab services.

We are grateful to Mr. Asim Adgiri, Authorised Dealer, Moyna, for his assistance in making the initiative a success.


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ProServe Aqua Lab


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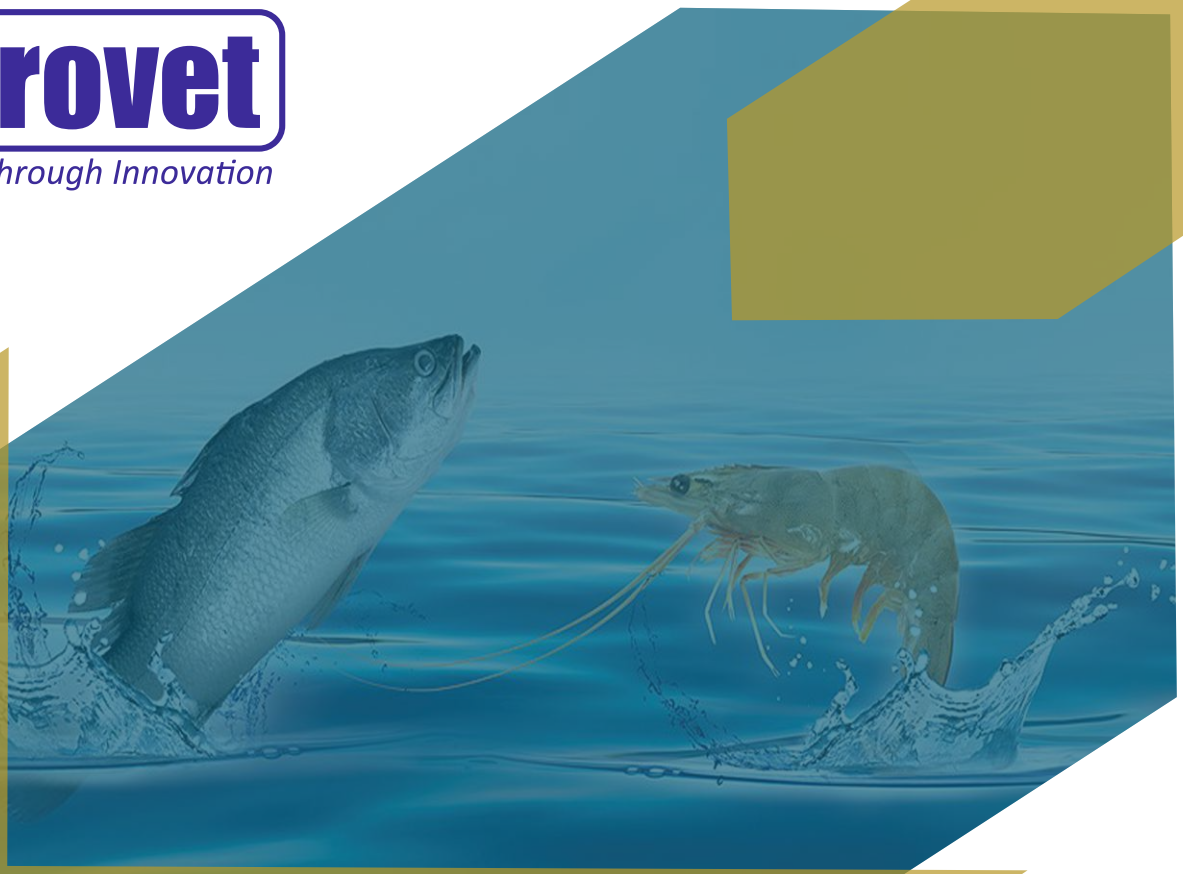

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BLU NOVA™

# A 14-year-old Kairan Quazi joins Elon Musk's SpaceX

Kairan Quazi, a young prodigy, has been hired by Elon Musk's SpaceX company, to join as a software engineer in its Starlink division. The 14-year-old will graduate this month from Santa Clara University in California, have passed SpaceX's technically challenging and fun interview process, and be the newest team member of SpaceX.

What's different about Kairan Quazi is that he's just a teenager.

He announced that he would be joining the coolest company on the planet as a software engineer on the Starlink engineering team. And he adds, "One of the rare companies that did not use my age as an arbitrary and outdated proxy for maturity and ability."

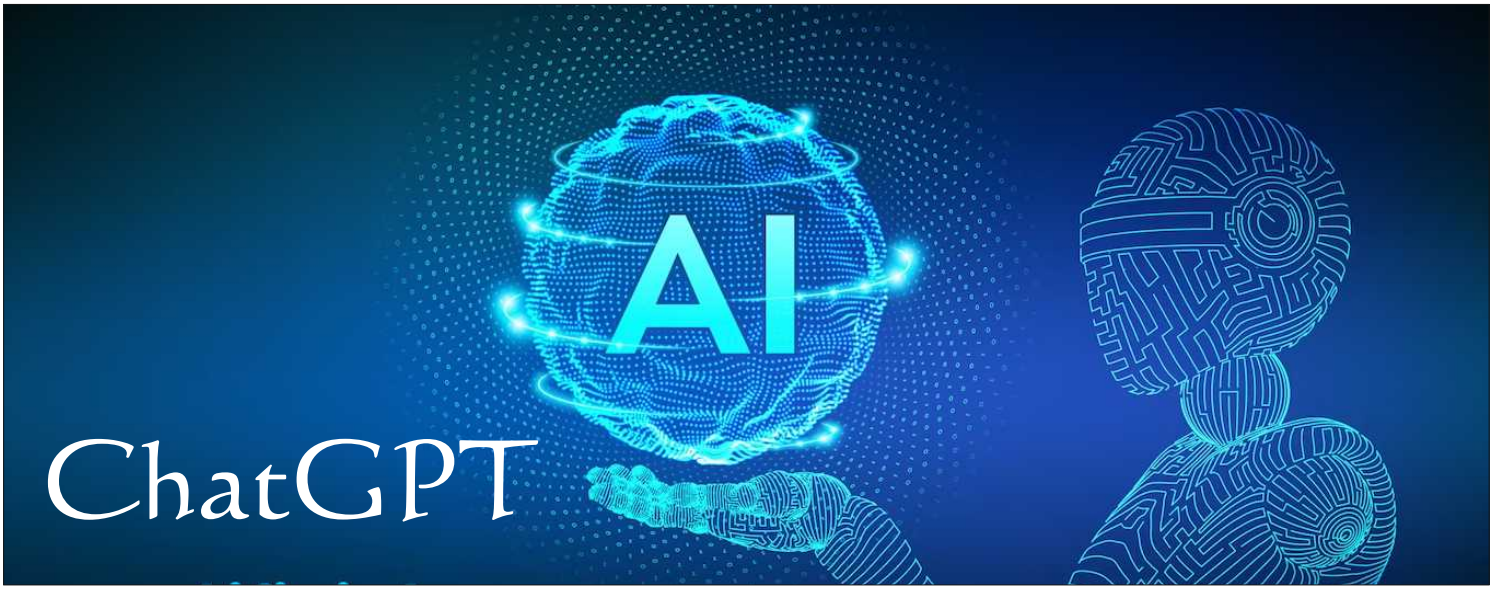
Quazi's incredible adventure began when he was two years old and able to talk in full phrases. By kindergarten, he was sharing news items he had heard on the radio with other students and instructors.

When he was nine years old and in the third grade, his parents decided that his homework wasn't difficult enough and assisted him in enrolling at a community college in California.

He scored 99.9 percentile for the general population on an IQ test the same year. A few months later, Quazi was offered an internship at Intel Labs as an AI research co-op fellow. By the time he was 11 years old, Quazi had transferred to Santa Clara University to study computer science and engineering.

He looks to have already accomplished one goal by getting the Starlink position. On his LinkedIn profile, he stated, "It is my dream to have a career tackling challenging issues and effecting radical innovation in service of the common good." Later, LinkedIn removed his profile from its social platform , which is another story.

Starlink is SpaceX's satellite internet service and started operating in January in Nigeria, its first African market.




## What is ChatGPT?

ChatGPT stands for "Chat Generative Pre-trained Transformer". The 'chat' naturally refers to the chatbot front-end that OpenAI has built for its GPT language model.

The second and third words show that this model was created using 'generative pre-training', which means it's been trained on huge amounts of text data to predict the next word in each sequence.

ChatGPT is an AI chatbot that was initially built on a family of large language models (LLMs) collectively known as GPT-3.

These models can understand and generate human-like answers to text prompts, because they've been trained on huge amounts of data.

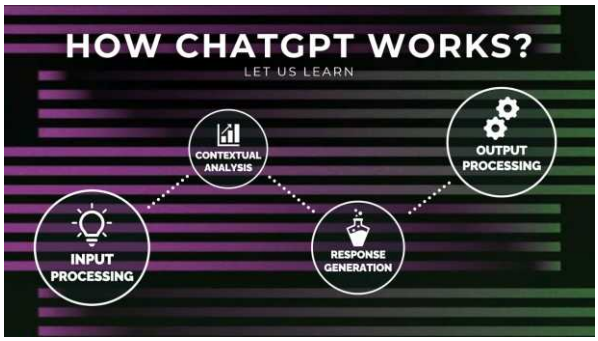
Lastly, there's the 'transformer' architecture, the type of neural network ChatGPT is based on.

(LLMs are designed to process and understand natural language. These models are typically trained on humongous amount of text data, allowing them to accurately analyse and generate human-like text.)

## How ChatGPT works?

ChatGPT works by using a transformer architecture, which is a type of neural network architecture that is specifically designed for processing sequential data, such as text.

The model is pre-trained on a large corpus of text, over 40GB, which enables it to understand the context and meaning of the words in the text.




When given a prompt, ChatGPT uses the pre-trained transformer architecture, the knowledge gained from pre-training and the self-attention technique to generate text that is coherent and fluent.

The model uses autoregression, a process where it predicts the next word in a sentence, given the previous words and beam search, where it explores multiple options for the next word in a sentence and chooses the one that is most likely to be correct.

The model also uses a technique called beam search, which allows it to explore multiple options for the next word in a sentence and choose the one that is most likely to be correct. This technique helps the model generate text that is more coherent and fluent.

## Who invented ChatGPT?

ChatGPT is wholly owned by OpenAI LP (Limited Partnership), the for-profit subsidiary of OpenAI Incorporated.

It isn't fully controlled by an established company like Google or Facebook/Meta.

The invention of ChatGPT can be attributed to the team of researchers and engineers at OpenAI, led by Ilya Sutskever and Dario Amodei.

Dario Amodei

Ilya Sutskever

Ilya Sutskever and Dario Amodei are two of the key inventors of ChatGPT.

Ilya Sutskever is a renowned AI researcher and the co-founder of OpenAI.

### When was ChatGPT invented?

It was first introduced in 2019 and since then, it has become one of the leading language models that are used for natural language processing (NLP) tasks and launched on November 30, 2022.

By January 2023, it had become the fastest-growing consumer software application in history, gaining over 100 million users and contributing to OpenAI's valuation growing to USD 29 billion.

### Where ChatGPT fails?

One of the major issues with the model is that is quite prone to generating text that may be prejudiced, offensive and profane.

This is a classic issue that arose because the model has been trained on unmoderated and unfiltered, real-life examples of text found online, therefore, it tends to reflect the biases present in them.

Furthermore, ChatGPT, like other language models, also tends to memorize patterns in the training data.

This often leads to overfitting of data.

### Applications of ChatGPT:

Banking, Safety & Marketing, Programming, Education & Media & Entertainment to name a few

### References: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https://insights.daffodilsw.com/blog/top-17-industry-applications-of-chatgpt

https://www.youtube.com/watch?v=4qGrteTY1EM&ab_channel=Simplilearn


### Compiled by:


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(Adhithyaa Consulting & Learning Solutions)


## Creativity Overloaded

# BIZARRE
## Fruits and flavours

## The World's most Expensive Mango:

**Priced at a whopping amount of 2.70 lakh per kg**

Miyazaki is a type of "irwin" mango which is different from the yellow "pelican mango" widely grown in Southeast Asia. It contains beta-carotene and folic acid and is rich in antioxidants.

### From Miyazaki in Japan

The Miyazaki mango was originally grown in Miyazaki city in Japan's Kyushu prefecture. It is usually over 350g in weight and has 15% or higher sugar content. The cultivation of this variety requires long hours of bright sunshine and warm abundant rainfall. This ruby, red-coloured fruit is also known as "Egg of the Sun" or Taiyo-no-Tamago in Japan.

### This Ruby Red-Coloured Miyazaki Mango of Japan Is Grown In Tripura

Mangoes that cost a whopping 1500 Rupees per kg are being cultivated by farmers in Tripura, alongside the commonly available 'Amrapalli', 'Himsagar', 'Haribhanga', 'Vermis', Chinese, etc. In the international market, the Miyazaki mango is priced at around ₹ 2.70 lakh per kg.

### Miyazaki Mangoes in other Parts of India

Recently, this variety of mango from Japan was also found growing in a mosque compound at Dubrajpur in Birbhum district of West Bengal which had been planted by a local villager two years ago. Just one of those was sold for Rs. 10,600.

Last year, a 12-acre farm house of farmers Sankalp Singh Parihar and Rani Parihar in Jabalpur, became well-known for planting the Miyazaki mangoes.

Although 14 different types of mangoes were planted in Sankalp's garden, but the world's most expensive mangoes grew on two trees. That's why Sankalp had deployed 4 guards and 6 dogs for their protection.

The Mango Festival, that currently took place in Siliguri, West Bengal, unveiled the world's most expensive mango, 'Miyazaki' which has captured significant attention by the visitors due to its reputation as the world's most expensive mango.

## The World's most Expensive Ice Cream:

A scoop of this exquisite delight is probably going to cost more than all the ice cream you will have throughout multiple summers.

According to Guinness World Records, the frozen treat, known as byakuya, or "white night" in Japanese, is presently selling for 880,000 yen ($6,380) per serving, making it the priciest ice cream in the whole world. On its website, the Japanese ice cream company Cellato refers to White Night as a Gelato, a reference to its Italian heritage.

This ingredient alone might fetch up to two million yen ($14,500) per kilogramme if it were only sourced from Alba, the region in Italy where many believe the greatest white truffles are grown. Two kinds of cheese, an edible gold leaf, and "Sakekasu," a paste-like component made from the fermentation of sake, are used to garnish the ice cream.

The desert is available for sale in Japan and is shipped directly to consumers, according to Cellato's website. Sampling the treat comes with almost equal precision, as Cellato sets out meticulous steps to govern the way it should be consumed once it arrives.

» Patrons are instructed to pour in the white truffle at the right texture just as the ice cream softens up before mixing it with a handcrafted metal spoon given to them.

» They are advised to let the ice cream defrost at room temperature or microwave it at 500 watts for 10 to 20 sec if the texture is too hard.

» In addition, they recommended pairing the tasting with sake or a French white wine.

While the Guinness World Records team has not had a chance to sample the dessert, Cellato earlier offered a tasting session for its staff, who described the treat to the record-keeping body as “rich in taste and texture.”

Cellato, which also has a black truffle-based offering on its menu, said it plans to diversify its eye-wateringly expensive product line to include Champagne and caviar in the future.

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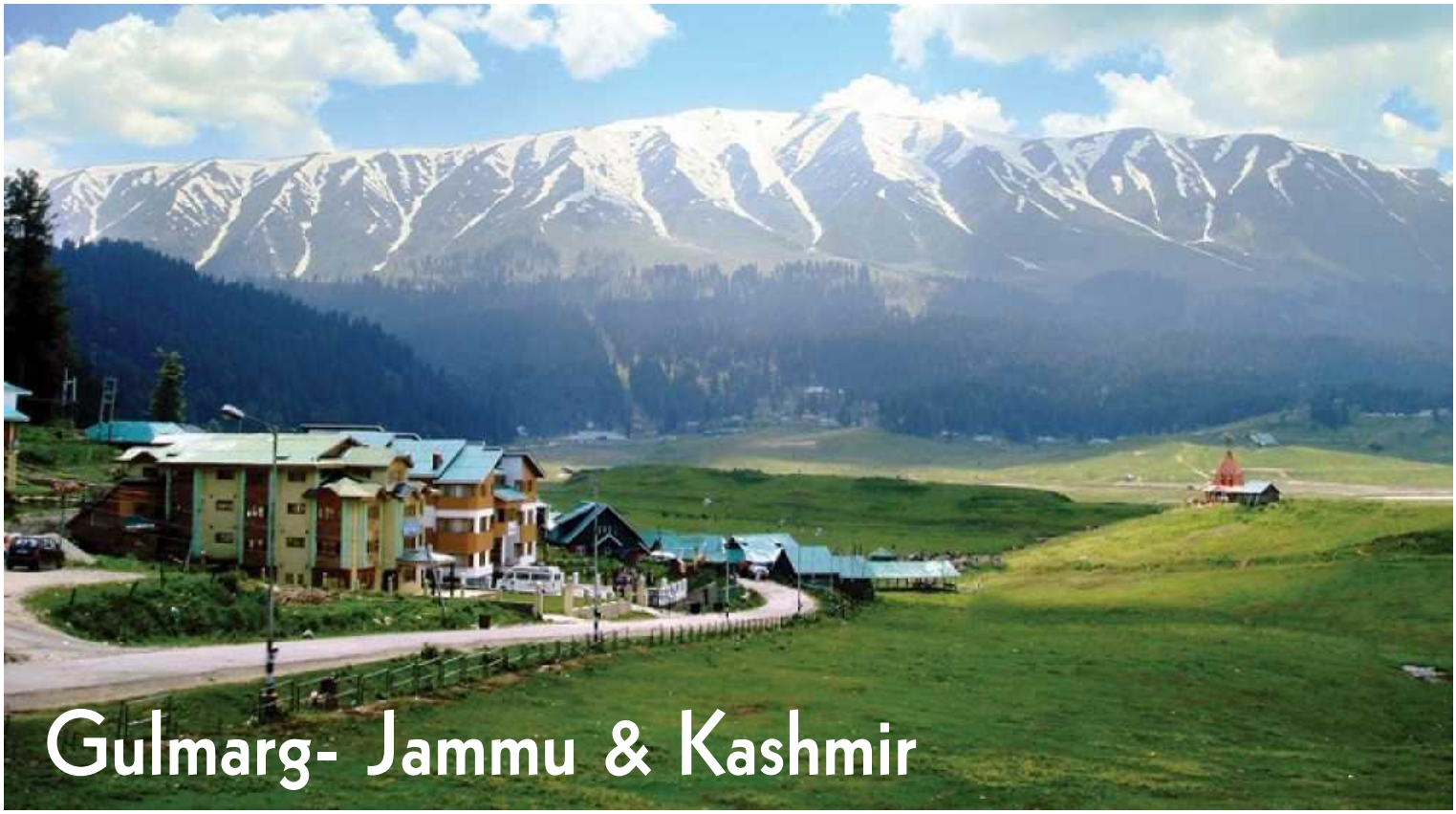

# Gulmarg- Jammu & Kashmir

***Travel Destination***

*Gulmarg, known as Gulmarag (Kashmiri pronunciation: meadow of flowers') in Kashmiri, is a town, hill station, popular tourist destination, popular skiing destination and a notified area committee in the Baramulla district in the Indian union territory of Jammu and Kashmir. It is located at a distance of 31 km from Baramulla and 49 km from Srinagar. The town is situated in the Pir Panjal Range in the Western Himalayas and lies within the boundaries of Gulmarg Wildlife Sanctuary.*

# The legless beggar

One day, a rich kid was walking with his dad when he saw an old, legless beggar on the street, begging for alms. The boy stopped his dad immediately and walked up to the disabled beggar.

"Hey sir, can I ask you a question?" He asked him.

"Yes, you can," the old man replied.

Then the boy said:

"What happened to your legs? Why are they missing?"

A look of shame showed on the dad's face as he whispered into his son's ears.

"Hey, you should never ask people inappropriate questions".

The old man heard it. He paused for a moment, then said something to the little boy.

"Can I tell you a short story?"

The boy nodded his head. Then the old man said:

"It's a true story about a young boy, and you should pay keen attention."

"Okay"

The old man started speaking.

"There was a boy who had a donkey he loved so much. He called him Banjo, and he was his best companion. One day, he went to bathe in the river and took the donkey with him for a bath. Unfortunately, a huge crocodile suddenly leaped out of the water and grabbed the donkey, dragging him deep into the water. The boy couldn't save his donkey. He screamed so hard as he watched poor Banjo be killed. He became so angry, like a volcano. Burning with anger, he must wreak vengeance, so he jumps into the river to fight the ferocious crocodile. But it didn't turn out well, as another crocodile attacked the boy and started devouring him. The end!"

Having listened to the story, the kid wagged his head and then asked

"So, what happened to the boy afterwards? Or was he also killed?"

The old man paused for a moment, then said

"Over the years, that boy has grown into an old man, and he is now me. I just told you a story about myself, thereby answering your question. I survived but lost both legs from the incident".

Both the father and son were amazed. Then the old beggar concluded.

"My story has a powerful lesson about anger and revenge that you should take away. You should learn to control your anger, or else you would be pushed to inflict vengeance, which would not only hurt others but also yourself. I was so angry and desperate; I wanted that revenge so bad that I didn't realise how stupid I was. Anger can make you take stupid actions that you will live forever to regret. You see, if I had controlled my anger and walked home after the crocodile ate my donkey, I wouldn't be the 'legless beggar'you see today.

## Moral of the story:

It's important that you learn to forgive those who hurt you and move on with your life. Not because they deserve it, but because you deserve peace.

# Bypass Feed for Dairy Cow's Nutrition

**Dr. Partha P. Biswas**
Former Associate Professor,
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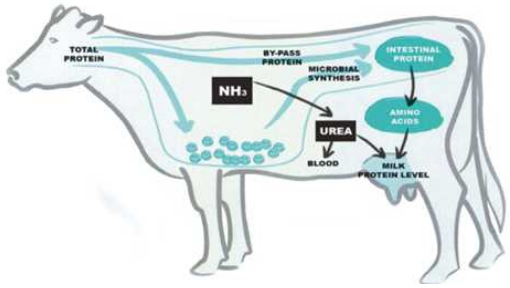
Senior Consultant for Aqua & Vet medicines

## Feeding of Bypass Nutrient to Dairy Cattle




The main impediment to the growth of the livestock sector in developing nations in Asia and Africa is the lack of adequate quality feed. 20th Livestock Census showed that the total livestock population of India is 535.78 million showing an increase of 4.6% over Livestock Census 2012. Therefore, growing need of feed supply for these animals is becoming an important issue. Dairy cow feeding should be designed to maximise milk production while minimising nutrient waste.The best option of feeding these ruminants is by altering the feeds and improving feeding management. Such a strategy could increase the animal system's ability to convert feed into energy. A 'Rumen Escape' or 'Bypass' feed is simply one that is less likely to be digested by rumen microorganisms.

## What Cow Normally Eats

A typical adult cow should be fed 6 kg of dry food and 10 kg of green forage per day. Green fodder from legumes and non-legumes should be fed in a 1:3 ratio. Her rations must be modified based on her age and the stage of her breeding/milking cycle.Dairy cows require a diversified and balanced diet in order to produce a large amount of high-quality milk. If cows are to produce more milk, they need nutrients beyond what the rumen bacteria can supply accessible for milk production.

## What are Bypass Nutrients for Cattle ?

The phrase "Bypass Nutrient" refers to that portion of the nutrients that undergoes relatively little fermentation in the rumen. It then becomes available for future digestion and absorption at the lower end of the gastro-intestinal tract in its intact state.

Bypass protein technology is the name given to this method or treatment for preventing dietary protein from being broken down in the rumen. The additional protein available for milk production as a result of these 'shielded meals' is intended for small intestine digestion and absorbed as amino acids for use at the tissue level.

Dairy animals' stomachs are divided into four divisions of which first is rumen where 70% of dietary protein meals are degraded. Over 200 species of bacteria, more than 20 species of protozoa, and at least 12 species of fungi have been found in the rumen. The process by which rumen bacteria and protozoa break down proteins is well understood. There is evidence to support the idea that the rumen uses ammonia generated during AA breakdown to produce bacterial proteins.

## What Advantages do Bypass Feed?

Cows given amino acids lysine and methionine experience an 11.8% increase in milk yield, a 6% rise in milk fat, and a 12.5% increase in milk protein synthesis [ 1 ].
Benefits of feeding bypass nutrients are -

- Increased nutrient consumption
- Increase the supply of limiting amino acids like lysine and methionine to the small intestine
- Improvement in milk production
- Increase in availability of essential amino acids per unit of feed
- Increase in efficiency of utilization of proteins
- Judicious utilization of protein meals, available in limited quantity
- Improvement in reproduction efficiency
- Better growth in young animals
- Better resistance against diseases
- Helps to control Salmonella and reduce mould growth in feedstuffs
- Reduces production of lactic acid in the rumen which would otherwise result in low rumen pH (acidosis), thereby affecting fibre digestion.

### Various Bypass Nutrients

Slowly degradable or "bypass" nutrients may occur naturally in feeds, but feeds can also be modified to limit their decomposition in the rumen. Nutrients should be rendered resistant to microbial enzymes to the point where rumen microorganisms receive enough nutrients for efficient rumen functioning in terms of fibre digestion and microbial protein synthesis.There are following kinds of bypass nutrients- Bypass Proteins, Bypass Starch, Bypass Fats& Bypass Chelated Minerals.

### Theoretical Understanding of Bypass Nutrients

Slowly degradable or "bypass" nutrients may also occur naturally in feeds, but feeds can also be modified to limit their decomposition in the rumen. Nutrients should be rendered resistant to microbial enzymes to the point where rumen microorganisms obtain enough nutrients for efficient rumen functioning in terms of fibre digestion and microbial protein synthesis.

The goal of feeding "bypass" fat (protected fat) is to avoid ruminal hydrolysis of bio-hydrogenation of unsaturated fatty acids and to boost feed energy density. The fats are thus digested mostly in the small intestine and absorbed as unsaturated fatty acids without interfering with fibrous feed fermentation in the rumen.

### Protected Nutrient Technology

This strategy involves feed management via passive rumen manipulation, in which the dietary nutrients (fat and protein) are shielded from hydrolysis, allowing these nutrients to skip the rumen and be digested and absorbed from the lower tract.

### Bypass Proteins

Dairy Bypass Protein is a form of animal or plant-based protein that defies decomposition in dairy cow rumen, allowing it to pass down the lower gastrointestinal tract and provide critical amino acids to the cow. For ruminant animals, the majority of feed is degradable in the rumen, known as 'Rumen Degradable Protein' (RDP), whereas a variable fraction of dietary protein, known as 'Un-degradable Dietary Protein' (UDP), escapes rumen decomposition. UDP is digested in the lower tract before amino acids are absorbed. The majority of the RDP fraction is used by rumen microbes as a source of nitrogen for protein synthesis, while the remainder generates ammonia. Because microbial protein cannot cover the protein needs of fast growing animals, proteins in the form of UDP, escape proteins, or protected proteins must be provided.

Maize gluten meal, cottonseed cake, fish meal, coconut cake, and maize grain are examples of naturally protected proteins. Protein can be protected in a variety of ways, including

Heat treatment | Tannin-protein complex formation | Formaldehyde Treatment | Encapsulation of protein | Analogs of Amino Acids | Lowering ruminal protease activity | Reducing rumen retention time etc.

### Bypass Carbohydrate

It can aid in reducing lactic acid generation in the rumen, which would otherwise prevent fiber digestion due to the acidic pH of the rumen. Thus, starch that escapes rumen fermentation is digested in the small intestines, resulting in glucose. Starch protection techniques include Formaldehyde treatment & can protect starch from degradation. Another way for protecting starch against ruminal hydrolysis could be to treat it with ammonia. It has been shown that treating starch with sodium carbonate and sodium hexameta phosphate reduces starch decomposition.

### Bypass Fat

Rumen bypass fats, sometimes known as "protected" fats, are dry fats that have been processed to make them easier to handle and assimilate into all animal feeds. Due to their high melting temperatures, dried lipids are mostly insoluble at rumen body temperature. Although the strategy has limitations due to the use of formaldehyde, lipids encapsulated in formaldehyde-treated protein provide good protection against ruminal hydrolysis and bio-hydrogenation of lipids. During the refining process, free fatty acids are removed from edible oils by treating them with sodium hydroxide and then acid. The free fatty acids extracted by centrifugation are known as acid oil, and it costs around one-third the price of edible oils. These acid oils can be transformed into calcium salts via fusion.

### Minerals Amino Acid Complexes

In dairy cattle, mineral nutrition is essential for the success of the lactation. Mineral complexes that are commonly available, such as zinc methionine, zinc lysine, copper lysine, manganese methionine, iron methionine, and so on, are useful because these are stable in the rumen environment and abomasum and be delivered to the small intestine intact. There is some evidence that mineral chelates (bound to a chelating agent, such as amino acid) are significantly better absorbed than inorganic forms.

In other words, chelation makes the minerals more bioavailable.

### Are Bypass Nutrients Expensive ?

The additional processing required to make bypass protein raises the price of the ingredient by 10 to 20% over the price of an untreated one. However, the extra milk produced by cows provided bypass nutrients will cover the additional costs.

### Conclusion

Fast-growing calves and high-yielding dairy cows, in general, may benefit from bypass nutrients since they have a greater nutrient requirement. However, the animal response may be extremely variable due to other limiting factors ( nutrients, health, management ) affecting nutrient utilisation. But feeding cattle bypass nutrients can help to increase the efficiency of high yielding animals and help to enhance daily net revenue.

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**A team is not a group of people who work together. A team is a group of people who trust on each other**

*A team is a unit. It is more than just a group of people working in harmony, it is magic. A team that focuses on the core tenants and comes together with humility every day can accomplish any goal, forge any river and climb every mountain. A team is created when there is a clear vision that everyone is aligned and brought into. They trust one and other, knowing that they have each other's back rather than they will stab one and other in the back. For a workplace team to be productive, cohesive and ultimately successful, trust in one another is essential. When team members know they can count on each other, and understand that all contributions are welcomed and valued, it can create an environment in which morale increases, productivity sees an upswing and work product becomes exceptional in its quality. Having a feeling of trust between colleagues helps strengthen an organization overall.*

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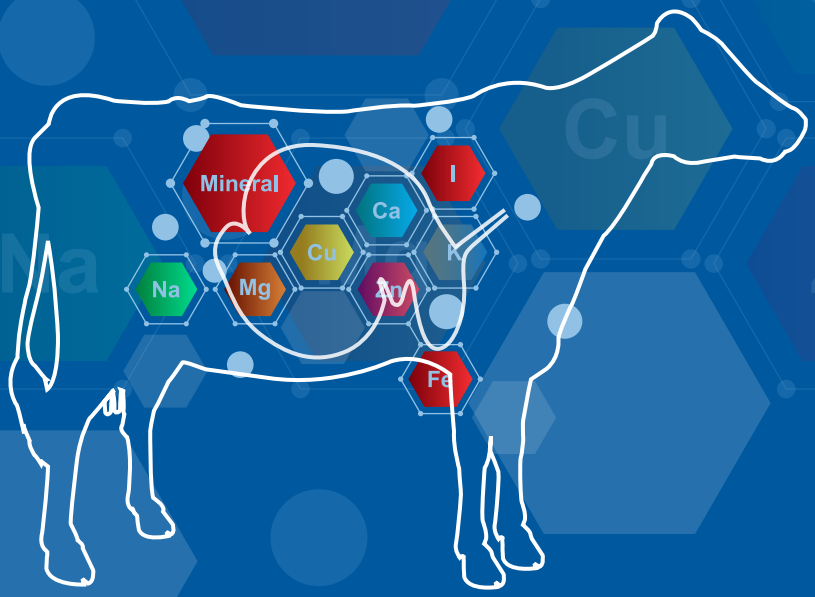


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