



REPOL KONNECT



Repol Newsletter

Issue 1/2013-14

From the Editor's Desk

Financial year 2013-14 has started with a big bang with reports of growth of 14% in Q1 against an annual growth of 12% last year. This is a great beginning and we believe it is sustainable.

In our endeavor to boost PP growth, we have initiated 16 new projects across various sectors and end uses. Silage is one of the new projects and we have a special feature on PP FIBC for Silage application in this issue.

Let me also report a few changes in our Petrochemical organization. I have moved to Chemical Business and Mr. Puneet Madan is our new Polypropylene Business Head. We welcome him to the team and wish him great times as the new editor of Repol Konnect.

My personal thanks to all of you for your patronage all these years.

Wish you a great year ahead.

C. Paparao



FIBC as Silage Bag: Innovation in Fodder Management for Milk Cooperatives in India



Detailed story on page 4,5&6

Final report on "Suitability of Repol Nonwoven Bunch Sleeves on bunch characteristics & fruit quality" released

National Research Centre for Banana (Trichy), completed the evaluation of Polypropylene Non-woven Banana sleeve for two seasons on three types of Banana (Ney poovan, Rasthali & Grand Naine) under the guidance of senior scientists from their Institute. The final report released by the institute has highlighted the following:

- PP Nonwoven significantly advanced the fruit maturity.
- Increase in the bunch weight was observed in the bunch covered by PP Nonwoven
- This also improved Physico-chemical characteristics like (finger weight, finger length, finger girth, pulp peel ratio, total sugars, TSS & starch)
- Bunch with PP Nonwoven Bunch sleeves was fully blemish free without any mechanical injuries caused by insects
- Fruit developed attractive green colour, hence fetched 10-15% better price.



Full report available on request

Meet our leaders



Sh. Ajay Shah

We are pleased to announce that Sh. Ajay Shah is our new Sector Head for Polymer & Cracker Business. Before moving to Polymers Sh. Shah was Sector Head for our Chemical Business.

After successfully guiding the Polypropylene business for 3 years, Sh. C Paparao has been assigned higher responsibilities as Sector Head Chemical Business. Sh. Puneet Madan is our new Business Head for Polypropylene.

Repol Konnect team wishes Sh. Ajay Shah, Sh. C Paparao & Sh. Puneet Madan success in their new roles.



Sh. Puneet Madan

HitechPlast Ltd.

HitechPlast Ltd. (HPL) started its operations in December 1993, by manufacturing thin walled cylindrical, injection moulded, plastic containers referred as “BoCans” – a product invented and patented by a well-known technocrat, from Denmark, primarily for paint customers. With a vision to grow HPL, it expanded the range of products to include tapered pails designed and manufactured in-house to cater to customer requirements. Currently, it offers container in the sizes of 1/5 ltr to 20 ltrs. In the years that followed, HPL set up production facilities at six geographically different locations and thus established national presence. HPL is one of the leading players in packaging industry and the group is engaged in the manufacture and sale of innovative polymer products to industries like paint, personal care, agro chemicals, health care, confectionary, lube and retail household products.



Mr. Malav Dani

Over the period of time, HPL has developed an in-house mould design facilities manned by experienced and qualified engineers. It has established a modern tool room consisting of CNC lathes and milling machines for mould maintenance as well as for making new moulds. This development has enabled our engineers design various innovative sophisticated moulds to meet customer requirements & delight.



To further consolidate the market share in polymer products, to broad-base the industrial service and de-risk its exposure to paint industry, HPL acquired 2 companies manufacturing plastic rigid containers with capacity from 5 ml to 8 ltrs. These companies were merged together in 2010 which lead to the formation of “Clear Mipak Packaging Solutions Ltd.”. The production of HPL, along with its subsidiary is 27,000 MTS.

The continuous support from RIL has contributed to the success of our group. Mr.Dani appreciates this support & the continued association.

CELLO Group

CELLO Group had started its business with Thermoware products for Indian kitchens from a small factory at Mumbai, in 1986. Initially with 7 machines and 60 workers cello products made an impact in the market with its superior quality. Shri Ghisulal D. Rathod along with his sons Sh. Pradeep Rathod and Sh. Pankaj G. Rathod have successfully taken the Group into its next generation. Today Cello is the largest manufacturer of branded household commodities in India, with a wide range of plastic molded products.

Cello Group has spearheaded the modernization of Indian plastic industry with many technological advancements. Many cello product designs are patented in India as well as in European countries. Cello Group has a human capital of 10000 employees, over 300 engineers and plastic technologists. It boasts of a most solid in-house research and development department along with staunch quality control. Cello has invested more than US \$ 50 million in ultramodern plastic processing machines from Battenfield- Germany & Sumitomo –Japan in their state-of-the-art plants at Daman, Haridwar, Baddi, Kolkata, Pune and Chennai.

Notable in the Cello Group of Companies is the foundation and steady rise of Cello Pens which was created in 1995 and now dominates the writing instruments market with a 37% share of the industry. (source :- A.C. Nelson). Today, this brand alone manufactures 5.2 million pens per day, exports to 80 countries, and the products are available in excess of 800,000 outlets across India.



Sh. Ghisulal D. Rathod



Sh. Pankaj G. Rathod



Sh. Pradeep G. Rathod

Cello's expanding global market is supported by warehouse and sale offices in different locations in India, Nepal, Latvia (EU), USA and UAE. Cello boasts of title of “The Largest Exporter of Insulated Thermoware and Writing Instruments from India”. The Group has also been the winner of the prestigious Plex Council Award as “Highest Exporter” for the last 14 years.

Cello Group has pioneered into construction activities which includes commercial, residential and malls.

Cello Group has played a key role in marketing the Indian plastics industry for over thirty years and favours a close relationship with Reliance Polymer team and appreciate efforts and supports extended.



A lighter shade of shale



There is no doubt that shale has had a significant impact on petrochemical production in the US. Shale gas has revived the ethylene and polyethylene industries in the US as the prospect of cheap ethane feedstock has spurred new projects and generated employment for many.

Shale's cost advantage has prompted chemical producers including Dow, CP Chem, Shell, Westlake, Williams, and LyondellBasell to announce new capacities. These including Greenfield and brownfield projects, equate to an increase of almost 10 million mt of ethylene capacity by 2017, assuming all projects come to fruition. Naturally this has prompted new projects for polyethylene as well and capacity in North America is expected to grow by 6 million mt with announcements heard by companies such as Nova, Formosa, CP Chem and Shell.

How North American producers cost advantage will be second only to the Middle East has been all the rage. The truth is that olefin is only part of the equation. The impact of shale gas and shale oil on aromatics has been equally significant.

As US steam crackers switch to lighter feed slates to capitalize on cheap ethane, aromatics production has seen drastic cuts. Prior to the shift, output of heavy liquids from steam crackers was estimated near 30%. This has fallen to closer to 13%. Output of heavier liquids from steam crackers has fallen approximately 57% and that has been considered conservative by some market participants. Granted some of the liquids include propylene and butadiene – but there is no doubt the shift has negatively impacted aromatics production.

Demand for aromatics has shown growth not only in the US but across the globe with no signs of slowdown in 2013-14, and barring a global financial meltdown or a crisis of similar magnitude, aromatics prices are likely to remain strong throughout 2013 and into 2014.

US new PE Capacity nearly 7 million mt by 2018
Source: Platts

Polyethylene Units Metric Tons/year	
2014	
Lyondell	100,000
2015	
Nova	1,000,000
2016	
Lyondell	450,000
2017	
CP Chem	500,000
CP Chem	500,000
ExxonMobil	1,300,000
2018	
Sasol	900,000
Formosa	300,000
Total	5,050,000
Unconfirmed 2018	
Shell	600,000
Nova	1,000,000

– Author: Kevin Allen, Managing Editor, Platts, Heritage Plaza Houston, TX 77002 USA

Dr. K E Lawande, Vice Chancellor, Dapoli Agriculture University visit to Jamnagar Farms & Refinery

His Excellency Dr. K E Lawande, Vice Chancellor Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, elected member of ICAR visited our Jamnagar Farms & Refinery. Dr. Lawande has played a pivotal role in evaluation of PP Nonwoven for mango crop along with Release of Successful technical reports pertaining to PP leno bags for onions and garlic.

Dr. Lawande was taken to Refinery and our Polypropylene plant and Jetty. He praised our agricultural scientist for all the good work done at Jamnagar farms. He also made a presentation on the new practices and research leading to greener fruits and vegetables.



INNOVATION IN FODDER MANAGEMENT: REPOL POLYPROPYLENE SILAGE BAGS

India produced 127 million tonnes of milk in 2012 which is 17% of the Global production according to the estimates provided by FAO. Though India is one of the leading countries in milk production, but shape of dairy business is starkly different from most advanced countries where you will find big farms with cattle populations over 1000.

Indian dairy business is aligned along the co-operative lines where marginal farmers having small no of cattle as low as 5 sometimes. They provide milk to collection Centers of organized Milk Co-operatives. Since cattle population per farmers is low, yield per cattle is abysmally low (50% of world average) mainly due to poor fodder management. As per Ministry of Animal Husbandry the shortage of Green Fodder is to the tune of 80MMT (Dept. of Animal Husbandry Annual Report 2011-12) and Govt. of India is making various efforts to store 'Green Fodder' for the dry seasons.

WHAT IS SILAGE:

Green and nutritious 'Forage' (maze, sorghum, etc.) can be conserved through a natural 'pickling' process in a sealed container with minimum air inside; this is known as "ensiled forage" or "Silage". Silage is very palatable to livestock and can be stored up to 3 years without deteriorating. Traditionally 'Mud Silos', 'Underground Silos' and 'Concrete Structures' were made for preparing and storage of Silage. Polypropylene Silage Bags were found to be a useful solution to meet the growing shortage of animal food and very relevant to the structure of Dairy business in India.

Advantages of Repol Polypropylene "Silage Bags"

Silage bags made from Repol Polypropylene brings a new era in 'Fodder Management' in comparison to 'Mud Silos', 'Underground Silos' and 'Concrete Structures'

- ✓ Repol "Silage Bags" are made from large designed sacks known as FIBC (Flexible Intermediate Bulk Container) with a Polyethylene liner
- ✓ Repol 'Silage Bags' in various sizes can be easily stored up to 3 years and nutritious value remains intact.
- ✓ Being a lighter material, transportation is possible unlike traditional 'Silos'
- ✓ The bags are readily available. There is no need for farmers to prepare 'Silos'
- ✓ They are cheaper than 'Concrete Silos'

रिपोल पॉलीप्रोपीलीन "साइलेज बैग्स"

**Reliance
POLYMERS**

साइलेज क्या है?

भारत दुनिया का सबसे बड़ा दुग्ध उत्पादक देश है। हालांकि मौजूदा घाटा प्रबंधन उपायों के कारण भारत में पशुओं से मिलनेवाला औसत दुग्ध उत्पादन बहुत ही कम है (दुग्धिया के औसत का 50%)। हाल ही में योजना आयोग द्वारा प्रकाशित रिपोर्ट्स से यह बात जाहिर होती है कि हरे चारे की उपलब्धता में लगभग 35% की कमी है।

हरे और पौधेवाली "चारे" (मकई, ज्वार इत्यादि) को किण्वन प्रक्रिया द्वारा हवा-रहित जगह में सुरक्षित रखा जाता है, जो "सील्ड चारा" या "साइलेज" कहलाता है। हरा चारा जब भरपूर मात्रा में उपलब्ध होता है तब साइलेज बनाकर उसे उन दिनों इस्तेमाल किया जा सकता है जब चारे की उपलब्धता कम होती है।

हरे चारे को साइलेज में बदलने के फायदे:

- जब हरे चारे की उपलब्धता कम हो जाती है तब साइलेज को उसके बदले में इस्तेमाल किया जा सकता है।
- साइलेज से पशुओं को बेहतर गुणवत्ता वाला चारा और बेहतर पाचन मिलता है।
- यह दुग्ध उत्पादन बढ़ाता है और हरे चारे की कमी वाले दिनों में दुग्ध के उच्च उत्पादन को बनाए रखता है।

रिपोल पॉलीप्रोपीलीन 'साइलेज बैग्स' के फायदे:

रिपोल पॉलीप्रोपीलीन से बने साइलेज बैग्स, पारंपरिक तौर पर इस्तेमाल किए जानेवाले 'मिट्टी से बने साइलो' और 'टंगर साइलो' के मुकाबले 'चारा प्रबंधन' में एक नई क्रांति लाए हैं।

- रिपोल 'साइलेज बैग्स', पॉलीप्रोपीलीन जालवर के साथ बनाई गई किताब भोरियाँ (ग्लोबलिसाइल इंटरमीडिएट बल्क कंटेनर) का एक प्रकार हैं।
- रिपोल साइलेज बैग्स में रखा हुआ साइलेज आसानी से उभे समया तक उपयोग में लिया जा सकता है।
- साइलेज बैग्स को कहीं पर भी आसानी से जगह-ले जाया जा सकता है, जबकि पारंपरिक 'साइलो' में यह संभव नहीं है।
- ये बैग आसानी से कई भागों में उपलब्ध हैं (100 कि.ग्रा. से 1000 कि.ग्रा.)
- ये बैग्स बहुत मजबूत हैं और इनका उपयोग कई बार किया जा सकता है।

रिपोल पॉलीप्रोपीलीन बैग्स में हरे चारे से साइलेज बनाने की विधि:

- उचित परिष्कृत और सजी सुखा (50% - 60%) हरे चारे का चुनाव करें।
- चारे की कुटी कर लें।
- किण्वन के लिए दुग्ध को घानी में (1:3 अनुपात में) घोलकर ड्रुट्टी फिर हरे चारे पर समान रूप से छिड़काव करें।
- अन्तिम जकवात के अनुसार 'साइलर' इस्तेमाल करके FIBC बैग्स का चुनाव करें।
- कठे हरे चारे को साइलर में भरें तथा उसे घनी से या अन्य सामान से दबाते रहें, ताकि अंदर दबी हुई हवा पूरी तरह से बाहर निकल जाए। किण्वन उपयुक्त दबाव पेश करें, उसनी ही अच्छी गुणवत्ता वाला साइलेज बनेगा।
- भरें हुए बैग को अच्छी तरह से बंद कर दें और 60 दिन के लिए सुरक्षित जगह में रख लें।
- 60 दिन पर्याप्त साइलेज तैयार हो जाता है। प्रतिदिन जकवात के मुताबिक बैग में से साइलेज निकाल सकते हैं। उसके पर्याप्त भौत का मुंह अच्छी तरह बंद करना जरूरी है, ताकि साइलेज खराब ना हो।

REPOL
POLYPROPYLENE
A Reliance Polymers product

Silage Bag leaflets available in Hindi, English, Tamil and Kannada



Innovator of Silage in PP FIBC M/s Chitale Dairy – Interview with Sh. Viswas Chitale, MD, Chitale Dairy



Q: How do you feel global warming and other environmental changes affecting dairy Industry?

Ans: The continual environmental changes due to global warming are affecting millions of farm and farmers worldwide. There are draughts as well as too much rain affecting fodder production in India. The livelihood of Indian farmers depends upon timely arrival of monsoon. With the new census it is believed that, the dairy industry income is equal to rice and wheat production. The farmers' main source of income is highly dependent on dairy industry. To sustain the economic viability of farmer; consistent milk production is of paramount importance.



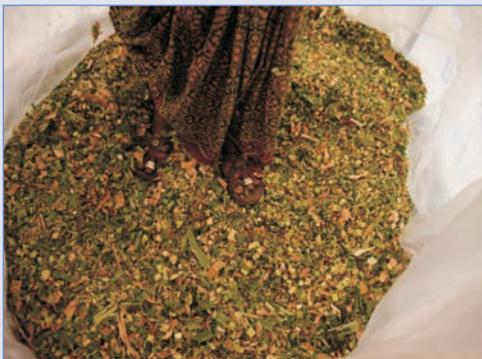
Sh. Viswas Chitale

Q: Can you tell us the challenges of Indian Dairy Industry?

Ans: India produces 128 MMT of Milk highest in world ahead of USA. But if we see our production of milk per cattle in abysmally low almost half of the world average, leading to low return per cattle. This is due to poor management of fodder for cattle. Silage can play a role in bridging this gap of fodder management.

Q: What is Silage & concept of Silage Bags?

Ans: Chopped green fodder packed in airtight condition gets converted into Silage. The agriculture waste or fodder preserved when there is good rain and stored in bulk silage bag, it becomes available to cattle throughout the year. This is done in Jumbo Bag (500 Kg carrying capacity) or Polypropylene FIBC as it is well known. Once prepared, silage can be stored for over 2 years in packed conditions. **Keeping this in view; Chitale Dairy R&D division along with Reliance Polymer team has developed portable 500kg silage bag first time in India and field tested in draught affected region in Maharashtra with excellent result.**



Q: Does this have any major advantages over the conventional systems like Concrete & Mud Silos?

Ans: In the first place it is very economical as compared to most conventional systems. It is lightweight, it retains nutritional value in terms of moisture & pH value of silage. Preparation of Silage has lower labour requirement. It can prove to be boon for most marginal farmers.

Q: How is this relevant to Indian Dairy Industry?

Ans: This is more relevant to Indian Dairy industry because of the structure aligned along the co-operative movement. Most dairies get their supply of milk from lacs of small and marginal farmers collected at collection centres organized in villages. This has replaced concrete and expensive silos used by farmers.

Q: What has your company done to take this to masses?

Ans: We at Chitale Dairy have taken the initiative and propagated the concept to farmers connected to our dairy and provided around 10000 bags to farmers. We have made an Audio Visual (Video) aid for the farmers depicting the process of making Silage & how it is packed in the Silage bags. We also have propagated the concept to farmers through the farmers meets jointly with Maharashtra Agriculture Dept official. Over 50 such events have been organized an average of 200 farmers were trained in each meets by us.

Q: What is your interaction with government agencies for promotion of this concept?

Ans: We have also initiated a subsidy program through Maharashtra Govt. Dairy development Department which provide 50% subsidy to needy farmers. We have actively interacted with Govt of Maharashtra for propagation of this application, so that it can reach every nook and corner of the State and help dairy farmers in Maharashtra.



Reliance Polymer joins College of Veterinary & Animal Sciences, Udaipur for Innovative Feed Management

“Public-Private-Partnership (PPP) has been enshrined as a key tool in policy today for effective management of services. It has been 12 months since Reliance Polymers got together with Rajasthan University of Animal Sciences, Bikaner for assessing the potential of PP Repol Jumbo bags as a tool for silage making. We were convinced about the potential of this Jumbo as an effective mobile silo, and supervised trials with FIBC bags at various locations including Vallabhnagar, Payas Dairy, Jaipur and also farmer fields. Ten bags with about 50 quintals silage were filled up at different locations, the results of which have encouraged us to have larger roadmap towards introducing concept of bag silage in Rajasthan & elsewhere. The publication of our work in Rajasthan, in the national daily “The Hindu” has catapulted the application as an Innovation at the National level. Numerous queries are being received by me from a wide spectrum of people across the country, which I am forwarding to RIL for followup in other states.

Livestock has been identified to be one of the engine of growth during 12th FYP(2012-2017). With growth at 3.6 % the livestock sector growth is 1.5 times the crop sector growth. India supports the largest livestock in the world including 56.7% of world buffaloes, 12.5% of world cattle. Empirical evidence from India as well as from other developing countries suggests that livestock development has been an important route for the poor households to escape Poverty. Output worth Rs 283 billion is being lost which is equivalent to 25% of the value of milk produced in 2002. Feed and fodder scarcity is identified as the most limiting constraint accounting for half of the total loss. Livestock derive major part of their energy requirement from agricultural byproducts and residues. Hardly 5% of the cropped area is utilized to grow fodder. India is deficit in dry fodder by 11%, green fodder by 35 %. Making silage can enhance fodder growing as a profitable activity by providing a marketing link between growers and dairy sector.

Forage crops are usually area, region and season specific and generally cultivated on degraded and marginal lands with minimum input in terms of fertilisers, water and operational energy. It is estimated that out of the 55 micro-regions in the country only 12 regions have surplus fodder while the remaining 43 have deficiencies of one or the other kind of feeding material. Silage making holds promise in overcoming these constraints in availability of green fodder with a National Fodder Plan.

For achieving the targeted milk production of 160 million tonnes by 2020 from the current level of 128 million tonnes, the requirement of feed in 2020 would be of 494 million tonnes dry fodders, 825 million tonnes green fodders and 54 million tonnes concentrates.

We look forward to continue our work with Reliance Polymers team to establish this application. Polypropylene Silage bags could overcome the key constraints associated with labour involvement for making pits and making it a viable trading option as well!”



Dr. R. K. Nagda (Dean, College of Veterinary and Animal Sciences, Vallabh Nagar, Udaipur) explaining the Silage preparation method to farmers



Seminar on “Scheme for Promoting Usage of Agro Textiles in North East region”, Kolkata

Scheme for usage of Agro-textiles in North Eastern Region was launched at Event organized by Textile Commissioners office Kolkata: The aim is to utilize Agrotextiles in improving the horticulture and floricultural produce of the NE states. With increasing acceptability of Agrotextiles, entrepreneurship in the area of agrotextiles production in the country will get an impetus. The growth of usage of Agrotextile products in the country will thus benefit both agriculturists as well as textile entrepreneurs in the country. It is proposed that in the project period (5 years), Agrotextiles will be utilized to improve the horticulture and floricultural produce of the Northeast states by providing technological and financial support by establishing the demonstration centres and arrange funding for Agro textile-Kit with overall fund outlay of Rs 55 Cr.



Polypropylene Fruit Cover for Pomegranate, Sholapur

One day workshop at National Research Centre for Pomegranate, Sholapur was organized. Reliance Polymer team took the opportunity to display and interact with the scientist transcending from various research bodies and major farmers of Pomegranate from all over India.



Leno promotion at All India Cold Storage Owners Annual Meet, Agra

U.P. Cold storage association organized one day National level seminar on cold storage Industry; Reliance Polymer team participated to create awareness on the use of leno bags at the grass-root level and also to make farmers & cold storage owners aware on the quality of leno bags available in the market. More than 500 delegates from various parts of the country participated and shared their views.

Polypropylene Crop Cover for Vegetables

Reliance Polymer team organized an event in co-ordination with Director, Indian Institute of Vegetable Research (IIVR), Varanasi to highlight the successes we have achieved in the Agriculture PP Nonwoven Applications. PP Nonwoven Fruit Cover for Banana, Grapes, Mango, Pomegranate and Crop Cover on Summer Squash, Tomato, Potato and other vegetables were discussed. Scientists of IIVR were present at the presentation in full strength. Director and the his teams of key scientist was of the Opinion that PP Nonwoven can play a crucial role in reducing the menace of the inadvertent use of pesticides & insecticides in production of vegetables specially for Brinjal, Lady Finger, Cabbages etc.



CRM- Delhi

Delhi Regional office organized a Customer Meet at Shangri-La Hotel, New Delhi. 80 Major OEMs, processors from the NCR region participated. Various innovative applications of Repol was displayed to promote growth of Polypropylene.



Collapsible / Foldable Wardrobe

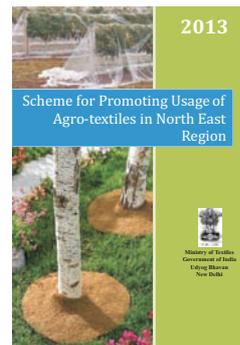


Disposable Nonwoven Curtains



Launch of Agro textile Scheme for North Eastern states by Ministry of Textiles

To leverage the potential for Agro-textiles in North Eastern Part of India, a "Scheme for usage of Agro-textiles in North East Region" has been approved, and implementation guidelines have been formulated after meetings/seminars and inter-ministerial consultations.



This scheme envisages promoting and utilizing Agro-textiles in improving the horticulture and floricultural produce of the Northeast states by providing technological and financial support for establishing the demonstration centres and disbursing Agro-textile kits with overall fund outlay of Rs 55 crores over the period of 5 years.

Breakthrough in Geotextile for PMGSY Roads in Maharashtra

Tender allocated for 5 km Pachgaon-Kolhapur (DPR) road stretch with PP geotextile fabric. The contractor of the project has already had tied up with our customer for supply for Geotextiles fabrics for the Road project. The project has been undertaken in the PradhanMantri Gram SadakYojana (PMGSY). This is the first project using Geotextiles of this magnitude in Maharashtra.

INDUSTRY EVENTS

- Pack Plus South, Hyderabad, 5-8th July
- South India Dairy Association Meet 19 July, Bangalore**
- Injection & Blow Molding, Mumbai, 25-26th July
- Dairytech India, Bangalore, 23-25th August
- Speciality Films & Packaging, Mumbai, 29-30th August
- Agritech Asia, Gandhinagar, 9-11th September
- Packtech India, Mumbai, 25-27th September



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