

An invitation to subscribe to the first

Gira Ingredients Club

Focus on protein alternatives, GOS/HMO, and fat's new development







June 2023



Background and objectives

A first edition focused on protein alternatives, GOS, HMO and fats

The global market of ingredients currently observes deep changes driven by health, environmental, ethical, economic and social concerns, which strongly impact consumers' behaviour and diet choices.

Proteins are the macronutrient whose market has been moving the fastest over the past 5 years, in terms of volume, quality and source. The demand for protein increases worldwide due to growing consumers' awareness of proteins' health benefits, from **weight management** to **muscle building and maintenance**, but also new concerns around **immunity, mental and cardiovascular health**. Each population category is attracted to the protein fortification of diets, from **kids**' growth support to helping the **elderly** mitigate the effects of aging.

- This increasing demand for proteins boomed in the last decade and has been enhanced by the Covid-19 pandemic.
- Almost all food categories have been hit by the "protein-enriched" trend. Consumers are now looking for more protein in meals, as well as in beverages and snacks.
- This growing demand for proteins, coupled with the increasing distrust in products of animal origin (for health, environmental and animal welfare reasons), has triggered an interest in alternative proteins from plants, but also from insects, algae, yeast, and increasingly from bioengineering, more particularly precision fermentation (PF).

Fats are now also a hot topic. Although often criticised for their high saturated fatty acids content, dairy fats now show new opportunities in terms of high added-value fractions valorisation, such as milk fat globule membranes (MFGM), that have proven benefits in brain development, mental and cardiovascular health for instance. In the field of alternatives, vegetable oils have presented some limits in dairy and meat alternatives and a second generation of "fat alternatives", including PF fats is in development.

And of course, **sugar and probiotics** are buzzwords too, at least in the dairy world: sugar reduction, valorisation of milk sugar (lactose and permeate), and enrichment in probiotics are examples of frequent questions addressed by food and ingredient producers.

The global ingredients landscape is therefore at the heart of **multiple technical**, **competitive**, **social and environmental trends**: the environmental footprint of the different sources is debated, and challenges are faced over processing, scalability and organoleptic properties (taste and texture), as well as nutritional and functional properties.

WHY THE GIRA INGREDIENTS CLUB?

Since the first edition of the Gira Dairy Club (GDC), Gira noticed that what we call "Technical Dairy Ingredients", mainly protein fractions of milk, have gained importance among our members' concerns. The valorisation of these protein fractions, among which some of them were initially co-produced wastes, now makes the difference in the bottom line of all dairy companies. Moreover, dairy proteins are not alone: over the last few years, the rapid development of plant-based ingredients (and other sources), as well as bioengineered molecules, is bringing new opportunities and challenges.

This year, Gira decided to create the **Gira Ingredients Club (GIC)**, dedicated to **dairy and non-dairy ingredients** and addressed to clients from various sectors, but with **common objectives**, **issues and challenges**.

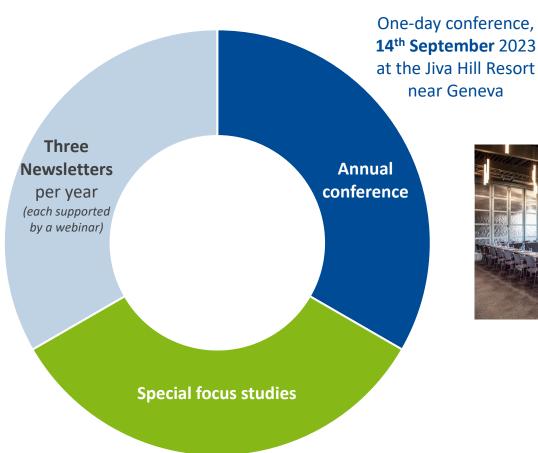
→ The Club will evolve year-on-year, tailored to your needs, with the 2023 edition particularly focusing on alternative proteins, GOS/HMO and fat's new development

Gira Ingredients Club © Gira 2023



Gira Ingredients 'Club' structure Strategy AND insight - Information AND debate









Discount for GIC members to 3 multi-client studies

- Global market for milk sugars
- High added-value dairy fats valorisation
- Alternative proteins outlook





The 1st Gira Ingredient Club (GIC) Annual Conference

One-day conference, in an intimate "club" environment, on the **14**th **of September 2023** at the Jiva Hill Resort near **Geneva**:

Morning: conference with the GDC members

- During this session, Gira will present and discuss all key trends which will have an impact on the dairy sector at world level.
- Afternoon: GIC specific session covering the key developments/trends and hot topics in the ingredients sector for the year ahead
 - Presentations will be given by Gira's top specialists as well as at least 3 external key speakers.

Gala dinner

 A nice opportunity to meet other GIC and GDC members, to share outlooks, opinions and a tasty moment!



Agenda for the 14th afternoon

(to be finalised)

What about GOS/HMO? Key trends and future: presentation by the company **Clasado**, hosted by Mylène Potier

Plant-based proteins market and new developments: presentation by the company **Roquette**, hosted by Guy Kientz

Precision Fermentation, the Caseins case-study: presentation by the company **Standing Ovation**, hosted by Laurène Bajard

What about fats? From dairy phospholipids valorisation to opportunities in "alternative" sectors: presentation by Gira team

There will be ample time for questions and discussions amongst GIC members and Gira team.





Three Ingredients Newsletters

Each newsletter will have the following content:

- Market conjuncture
- Hot topics
- Main events from companies/markets: investments, new products...

Deliveries: December 2023, March 2024 and June 2024

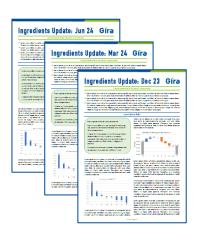
The content of the newsletter will evolve according to GIC clients' demand. A survey will be launched by Gira to collect GIC members' questions one month before the publication of the newsletters.

Three special focus studies (15% discount price for GIC members)

Each year, three special focus studies will be produced throughout the year.

This year's subjects are:

- The global market for <u>milk sugars</u>: milk/whey permeates and lactose. Focus on added value derivatives and applications
- High added-value <u>dairy fats valorisation</u>. Focus on milk fat globule membranes and phospholipid concentrates
- Alt-Protein Outlook. Focus on plant-based proteins









For all studies and projects conducted by Gira, a combination of three primary research approaches is used to obtain the fullest possible coverage of the key aspects and drivers of the markets to be analysed & forecasts:

- Gira's broad knowledge and in-house databanks, and our hands-on experience in dairy worldwide:
 - 13 years of Gira Dairy Club data where light coverage of technical dairy ingredients is provided
 - Two editions of the Technical Dairy Ingredients study (2017-2018 and 2020-2021)
 - Several multiclient studies covering hot topics in the field of ingredients (Global lactoferrin market; Global milk sugars market, etc.)
- Extensive documentary research covering all aspects of the product supply chains and the markets to be analysed
 - All available documentation:
 - trade press, newsletters
 - company, retailer and association websites
 - national and customs data
 - consumer and sector studies.

A program of expert interviews:

Interviews will be carried out by Gira's experienced interviewer team using tailored questionnaires to obtain the required answers for each product and market, taking the specificities of each country into consideration. Our interviewers essentially target:

- Producing companies and traders based in Europe, the United States and Oceania
- Manufacturers and importers supplying the end-user sectors in the countries concerned
- Associations, authorities and experts.

Gira's Qualifications and Gira Team

Our Company

Over the last **30** years Gira has built up a major reputation and client base in the **international dairy sector**. A list of our more recent dairy clients is provided at the end of this proposal. Over the last 4 years, Gira has also been **active in the "alternative to dairy" sector**, through several presentations and webinars, the multiclient study "**Chinese Protein Alternative Market**" published in June 2021, and several individual studies conducted in the field of precision fermentation.

- In recent years, we carried out many assignments for worldwide ingredients companies (dairy and non-dairy) in areas and product sectors similar to those to be covered in this study.
- Gira has produced two editions of the multiclient study on **technical dairy ingredients** in 2017/2018 and 2020/2021 and we regularly produce individual and multiclient studies concerning several of the ingredients and end-user sectors (infant formula, adult nutrition, etc.) covered in the Gira Ingredients Club.
- We are active in strategy consulting and market research in most food and drink sectors worldwide (more details are available at www.girafood.com).
- Gira's extensive **network of international experts, contacts and clients** in most dairy sectors means that we are uniquely qualified to carry out this innovative and highly challenging research and analysis project. Experience has also shown that our **long-standing reputation** for research and consultancy in the global market opens doors for us to the most informed and competent sources of information.

The Gira Team

The Gira Ingredients Club is supervised by Christophe Lafougère.



Christophe Lafougere is CEO of Gira, and directly responsible for all Gira assignments in the worldwide dairy sector. He has been directing all of Gira's consulting and research activities in the dairy sector for over 30 years, covering all aspects of production, collecting, processing and marketing, in all the major dairy-producing and consuming regions of the world.



Mylène Potier is director of the ingredients sector at Gira. She is responsible for all studies and research on technical dairy ingredients for over 10 years. Mylène has a PhD in Human Nutrition with particular reference to milk proteins. She supervised a team of consultants with experience gained over many years from individual and multiclient studies in the dairy and ingredients sector.



Laurène Bajard, consultant within Gira for the last 5 years, has a strong understanding of the food industry, from production to marketing. She is specialised in dairy and the alternatives markets (plant-based, precision fermentation, etc.). Currently working on the evolution of both dairy and meat alternatives markets, she focuses on innovations, new technologies, strategies and investments in this sector.



Guy Kientz, is a Senior Advisor with Gira. He has held several senior management positions in the food ingredients industry, including dairy, in various companies in Europe, the United States and Asia Pacific (mainly Japan and Singapore). He brings his expertise in strategic consulting, project management and M&A.



Project Timing

- Conference presentations will be sent to clients at the end of the conference (with the agreement of external speakers).
- Three newsletters will be published during the year: December 2023, March 2024 and June 2024.
- Three special focus studies will be available during the year with the Milk sugars study due to be published in September 2023. Publication dates for the other two studies are to be defined.

Project Fees

Gira is launching this new club with special first-edition membership fees to welcome founder support for the unveiling of this new and exciting club.

The Founder Membership fee for the 2023 edition of the Gira Ingredients Club is EUR 5,000 (before any applicable taxes).

For members of the GDC23, there is a special price of EUR 3,000.

The fee covers:

- Attendance for 1 delegate at the Members' Conference on 14th September 2023. The conference will be recorded (with the agreement of external speakers).
- The fee includes electronic copies of the presentations and accommodation for the 14th of September, including meals during the conference at the Jiva Hill Resort for one representative from each Member organisation. There is the possibility to have a second delegate. Please contact Gira.
- A newsletter (3 times during the year) accompanied by a webinar.

GIC members will benefit from a 15% discount for each of the 3 special focus studies

- The Global Market for Milk Sugars: milk/whey permeates and lactose: EUR 12,000 for GIC members instead of EUR 15,000 (description of the study on the following page)
- Dairy Alt-Protein Outlook to 2032: study proposal available at GIC conference
- High added-value dairy fats valorisation: study proposal available at GIC conference



The global market for milk sugars: milk/whey permeates and lactose

Objectives and content of the study

This study will address the characteristics of the global markets of lactose, milk and whey permeate:

Production analysis (2021, 2022e, 2027f) in volume by geographical areas

- Lactose
- Milk and whey permeate

Trade analysis (2021, 2022e, 2027f) by exporters and importers, in volume and value for lactose

Estimate of main trade flow for permeate

Consumption data and analysis for lactose and milk/whey permeate:

- By geographical areas
- By application: milk standardisation, feed, food (divided in subsegments), infant nutrition, pharmaceutical sector and further processing (lactose extraction from permeate, substrate for fermentation)
 - Analysis on the global demand of main lactose derivatives: lactulose, lactitol and GOS. A special focus will be done on GOS, given its importance in the infant nutrition market and the growing demand as a probiotic in adult nutritional sector too.
 - A focus will be done on HMO whose global demand is forecast to surge in coming years. HMO is produced by precision fermentation (lactose can be used as a substrate for micro-organisms) and is expected to compete with GOS notably in the infant nutrition sector.

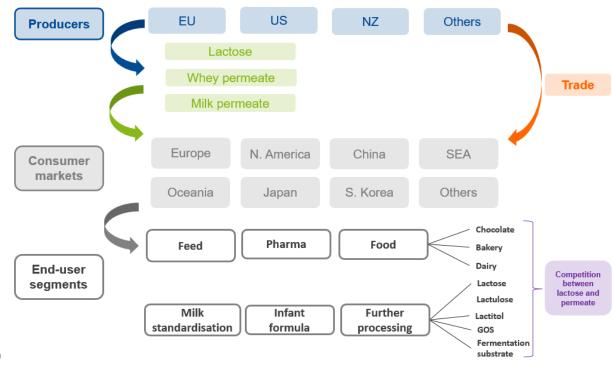
Price analysis by types of lactose and applications.

Competitive environment analysis:

- Main global producers of lactose and permeate
- A special focus will be done on milk and whey permeate as potential alternative to lactose, particularly in food sectors, as well as lactose by-products (molasses and mother liquors) issues

Conclusion:

- Opportunities and supply "gaps" existing in the market
- Key factors of success





■ Agronur

Some of Gira's Dairy Sector clients

Agropur	EU Commission	Mueller
Agrial / Eurial	Eucolait	Nestlé
ALIC	■ Fedegan	■ DMK
Alpma	• FIT	■ Rupp
Arla Foods	■ Fonterra	Savushkin
CHR Hansen	Friesland	Sealed Air
Coveris	Campina	Sodiaal
Dairygold	Glanbia	Unilever
DanTrade	Kerry	USDEC
(Danone)	Lactalis	Valio
■ DSM	Laïta	Yili
Dupont (IFF)	Meggle	
■ Emmi	Mondelez	

■ FII Commission

■ Muallar

Members of the Gira Dairy Club 2022

■ Agropur	Ferrero
Arla Foods	• FIT
■ Bel	■ Fonterra
■ BordBia	Glanbia
■ CHr Hansen	IFC World Bank
Dantrade	Lactalis
■ DMK	Land'OLakes
■ DSM	Meggle

Sodiaal

USDEC

Valio

Emmi

Eurial

■ The EU Commission



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