Contributions of GIs to sustainable healthy diets

In collaboration with:

oriGIn-France

WEBINAR ORGANIZED ON 18 November, 9 to 11:30 am CET

Table of Contents

Background

Starting in 2017, FAO and oriGIn embarked on a project to support Geographical Indications (GIs) to develop their own sustainability strategies, with the aim of understanding the sustainability dynamics at local level and at the same time taking into account markets and regulatory requirements. Experts were invited to discuss this topic and the way forward, which provided the ground for the Sustainability Strategy for GIs (SSGI), including a roadmap of 4 basic components: Prioritize, Assess, Improve and Communicate. A task force was then established to provide continuous feedback and recommendations for the implementation of SSGI and the tools developed in this framework. After the first tool being developed (a guide and toolkit for producers to identify sustainability topics in their system and to engage in improving them), FAO ad oriGIn are now working on relevant indicators to help GI producers in the next SSGI phase related with assessment.

Quality products that are deeply rooted in a given geographical area play a key role in the economy. They can also contribute to social development and the preservation of local resources. Natural features – as well as tradition and culture, typical of certain geographical environments – have the potential to confer products some unique characteristics and reputation, which are valued on the market. Preserving such resources, traditions and quality through Geographical Indications (GIs) can create value (economic, social an environmental) for producers and consumers.

Keeping in mind that the United Nations Sustainable Development Goals (SDGs) are the point of reference for any strategy towards a more sustainable future, FAO and oriGIn held a series of webinars (October-November 2020) to address how quality linked to geographical origin can contribute to achieve sustainability objectives.

More information about the series of webinars background and objectives @ https://www.origin-gi.com/images/stories/PDFs/English/Event/2020_originfao_forum/Sustainability_Forum_Rev_15_October2020.pdf

Find out here the series of webinars full calendar and individual programs.

Objectives and Agenda

Most of Geographical Indications (GI) food products can have a strong link with traditional diets as their recognition builds on their link to origin, including their historical anchorage in traditions of the local community, biodiversity and traditional (low) food processes. In this context, it is interesting to explore and discuss how GI foods can contribute to sustainable healthy diets and the conditions for this shift. The literature is rather emerging, and it is also interesting to identify relevant topics for further research. The aim of this webinar is to explore the different relations between GI products and sustainable healthy diets through presentation and sharing knowledge with participants.

Agenda:

9:00	Opening: Claude Vermot-Desroches, president of oriGIn and oriGIn-France, and Florence Tartanac, FAO
09:10	Key Presentations: - GI and health: a first review of literature and approach by categories of products, Bin Liu, nutrition and food system officer FAO - Importance of biodiversity and local conditions for sustainable diets, Barbara Burlingame, Professor of Nutrition and Food Systems at Massey University, New Zealand - Importance of the microbiota and how GI can contribute, Christophe Chassard, French National Research Institute for Agriculture, Food and Environment (INRAE) - Everyday eating and GIs – tradition and health, Virginie Amilien and Gun Roos, researchers at Consumption Research Norway SIFO at OsloMet – Oslo Metropolitan University in Norway.
10:00	Breakrooms discussions towards recommendations for practitioners and public authorities
11:00	Wrap up and conclusion
11:30	End of the webinar

Main findings

The webinar was very fruitful in exploring various mechanisms for GI products to contribute to healthy diets, while highlighting the need for further research to define better the conditions for such contribution and to raise awareness of stakeholders starting from producers themselves. Among the mechanisms, the following were particularly addressed during the discussions:

GI products relate to diversity which is at heart in balanced diets: diversity of local conditions influencing the diversity and profile of nutrients, varieties of genetics, varieties of active compound in the final product due to the traditional processing methods; many examples of specific food compared to its generic counterpart illustrate how the variety and the place where the food is grown create significant nutritional differences.

- GI products are rather non or low processed food, in opposition to the ultra-processed foods[1], as defined within the NOVA classification system, which cause excess calorie intake and weight gain as a cause of chronic diseases; in the same approach, GI products have a rather small list of ingredients (putting apart spices) and no artificial ones, compared to more processed foods, and traditional processing methods tend to better preserve the food matrix with a positive impact on health as opposed for modified structure (e.g. cracking).
- An important part of GI food products are fermented foods, and these bring a crucial element for health with the microbial diversity, because of health interaction with the microbes but also the related richness of the product it (metabolites that can be produced and can have positive impacts).
- The possible influence of the cultural dimension and reputation of the GI products on the modalities of consumption, but there is a need of research to look at this issue as well as at the cultural references of GIs products and their impact on consumers' behavior.

The three topics for discussion (Group a: How to develop further the knowledge on the link between traditional products, GI, and sustainable healthy diets?; Group b: "How to raise awareness of producers on how to better preserve the nutritional quality of their products?"Group c: Following which indicators, and according to which modalities, better communicate to consumers on GIs can contribute to sustainable healthy diets?) were very valuable and provided key illustrations and recommendations for future research and activities in each area.

More specifically, the following issues were highlighting :

- Many anecdotal evidence suggests that there is a nutritional advantage of GIs. The presence of ancient breeds/endemic crop species/local varieties, intrinsic quality, adaptation to the terroir are all features eventually contributing to the nutritional quality of a GI. Also, GIs can enable diversified diets and nutritious diets. But there is a general lack of scientific evidence on the nutritional quality of GI products, both in terms of nutritional components and nutritional aspects (e.g. digestibility, assimilability).
- Specifications can be a tool to strengthen or preserve nutritional quality, but producers often lack knowledge or are simply not aware of specific nutritional/health aspects. When they are aware, they might not know how to value them and producers' organizations often do not have the financial capacity to carry out analysis or studies and explore nutritional correlations/aspects in their products.
- There is a need to communicate on GI and nutrition while being confronted with campaigns against salt, fat, animal-products.

The main recommendations from the discussions include:

- Conduct more research on GI products as being not highly processed
- Improve the quantity and quality of food composition data, focusing on biodiversity and microbiological diversity, at international level (e.g. reinvigorate the FAO INFOODS data system), and at national level (national food composition programs); Improving the knowledge about the food safety of GI products
- Inform and educate taking cultural aspect in consideration. To help to indicate to the consumers how to integrate some GI products in a balanced diet; use of more interaction

[1] The manufacture of ultra-processed include the fractioning of whole foods into substances, chemical modifications of these substances, assembly of unmodified and modified food substances, frequent use of cosmetic additives and sophisticated packaging.

instead of classical marketing information which is not very helpful develop (more educational programs, more interactivity with the shoppers and eaters) and prefer long-term communication campaign highlighting the multiple dimensions and values of GI: taste and pleasure (happiness), traditions (regions, collective action), etc.

- Improve consumers' knowledge about processed and ultra-processed food and their differences and how it can have effects on health and advocate for more regulations at institutional and national levels on this issue.
- Include nutrition experts in GI working groups to support producers in the development or assessment and improvement of their GI specifications. Role of international institutions (oriGIn, FAO, WIPO, others) to ensure that producers are properly coached and accompanied in both (quality) specifications drafting as well as follow-up activities.

Opening: Claude Vermot-Desroches, president of oriGIn and oriGIn-France, and Florence Tartanac, FAO

Claude Vermot-Desroches

Mr. Vermot-Desroches was pleased to take part in this series of webinars co-organized by the FAO and oriGIn. He said that GIs can play an important role for better diets and praised the FAO and oriGIn to explore this new issue in the framework of their cooperation on GIs and Sustainability.

He finally pointed out that GIs have many assets, as real socio-economic and environmental projects and many surrounding systems (economic, legislative, political systems)., He stressed that there is a real enthusiasm to strengthen GIs and sustainability and encourage cooperation among different actors, which is the objective of the webinar.

Florence Tartanac

Ms. Tartanac was pleased to take part in this series of webinars co-organized by FAO and oriGIn, within the framework of their collaboration in particular on this new emerging topic of "how geographical indications are contributing to sustainable healthy diets".

FAO is working on GIs as a tool for sustainable agriculture and full development since 2007, mainly through technical assistance and development of knowledge. More recently, the food and nutrition division began to explore further the GI contribution to sustainability, more specifically looking at its contribution to healthy diets (i.e. coming new publication to be released by FAO on nutrition and health potential of geographical indication foods).

Ms Tartanac highlighted that thanks to the webinar, participants would have the opportunity to build bridges between sustainable GIs and sustainable healthy diets as this concept is putting together both sustainability and healthiness. Though this concept is not new, it is currently coming back on the agenda, even if there is an open debate at the members' level. Together with WHO, FAO released one publication on *Guiding Principles on Sustainable healthy diets* that already provided useful elements for the Sustainability Strategy for GIs. The sustainability strategy for GIs, started in 2007 in collaboration

with oriGIn and was approved in October 2017. Some tools and guidelines are now being developed and this webinars series is also part of it to raise awareness and develop knowledge on GIs and sustainability.

The aim of this webinar is to identify relevant indicators regarding the GIs contribution to nutrition and health. We hope that the presentations and discussions will provide the key elements, taking into account that this webinar benefits from the most recent knowledge and experiences and can represent a good start for medium and long-terms collaborations.

Key Presentations

GIs and health: a first review of literature and approach by categories of products, Bin Liu, nutrition and food system officer, FAO

Many researches done on GIs focused on their contribution to preserve local biodiversity, local natural resources, their socio-economic impact for producers, rural development and preservation of traditional knowledge.

There are also studies on consumers' standards and attitude towards GIs but there is a gap between the attitude towards GIs as quality products and the quality of the food itself from a health perspective. *What it is the nutritional quality of a GI product and what role do GI products have in diets? How the diet and health relationship work?*

A bad diet causes malnutrition which includes both undernutrition and over nutrition and contributes to non-communicable diseases which is very serious problem for almost every country around the world.

There are not many studies on the nutrition quality of GI food in diets. The methodology we used in the FAO study is the following:

- Selection of different kinds of GI food and their nutritional values (dairy products, rice, so it covers a wide range of possible food and nutrition qualities).
- Review of each products production processes and their possible nutrition and health impacts as they included nutrients and bioactive compounds.

The case of "Furu", a Chinese tofu product, as soybean products are really common in Asia and West Africa (similar products with common properties exist in Japan and, South Korea, Indonesia, Nigeria, China…) was presented. The production process of Furu is similar to the cheese's one and includes inoculation and maturation, two processes that have proven to have good effects on nutrition and health.

Nutrition and health effects

Positive effects:

- Fermentation increases minerals (Fe, P, Zn, Ca, etc.) and vitamin B12
- Isoflavones after fermentation:
    - ↑aglycone (higher physiological activity)
    - ↓glucoside
- Short peptides

Negative effects:

- Long maturing time (months) in brine especially for GIs, very salty.
    - > 2000 mg/100 g
    - esp. GI because of longer maturation time.
- Furu is categorized as a condiment and cannot be eaten alone.

General issues

There is no nutritional consideration in GI specifications. The contribution of GIs to healthy diets depends on the inclusion of GI food in diets, especially by substitution (e.g. use furu instead of salt in cooking) and on the influence on consumer behavior (is nutrition an appeal for consumers?). \

In terms of limitations of the study, there are very limited rigorous human studies to establish links between GIs and nutrition ;NCDs are multifactorial but a healthy diet does reduce the risks of many NCDs.

Ways forward:

- To include nutrition in GI specifications ;
- To develop nutrition as consumer appeal ;
- To raise producer's awareness on the nutritional quality of their GI products ;
- To have better, updated food composition tables ;
- To improve the capacity building for research into nutrition, esp. the local institutions
- To tackle the great scientific challenges (Microbiome and fermented foods, Human studies, Interaction (specific compounds → synergy)
- To have systems thinking in nutrition policies

Click here for the full presentation.

Importance of biodiversity and local conditions for sustainable diets, Barbara Burlingame, Professor of Nutrition and Food Systems at Massey University, New Zealand

This topic is an illustration of the importance of biodiversity for food nutrition and sustainable diets. "Sustainable diets" is not really a new topic as it was first introduced into the scientific literature in the 80s but did not make much of an impact at that time and healthy diets took priority on sustainable diets - food industry promotion of healthy diets from the perspective of the health sector i.e. nutrients as the fundamental unit of nutrition.

In 2010, the FAO organized an international scientific symposium on sustainability (biodiversity was the theme) and proposed a consensus definition for sustainable diets which is as follows: *"Diets with low environmental impact which contribute to food and nutrition security and healthy life present and future generations"*.

The healthy component is intrinsic to the same concept of sustainable diets: protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair (for the producers) and affordable (for the consumers). They are nutritionally adequate, safe, and healthy while optimizing both natural and human resources.

The concept of sustainable diets and biodiversity and, indirectly, geographic origin related to quality came up in the high level panel of experts' reports (i.e. HLPE Reports #12 on Nutrition Influence Systems; #14 on Agroecology and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition and #15 on Food Security and Nutrition: building with global narrative toward 2030).

- In the report #15 on Food Security and Nutrition: building with global narrative toward 2030, it was specified the need to facilitate the supply of culturally acceptable diverse basket of foods of both plant and animal origin to ensure sustainable diets and to facilitate biodiversity conservation through sustainable use by promoting the production and consumption of nutritionally rich neglected and underutilized species and local varieties.
- Another important recommendation relies on the fact that looking at the definition of food security, it includes four dimensions: availability, access, utilization, and stability. However, it is not enough, and the high-level panel of experts recommended to the CFS - the Committee of World Food Security, to add two more dimensions to the definition of food security:
  - sustainability
  - agency: dimension that empowers people in achieving food security

Illustrations on nutrients and ecosystems and traditions.

Example 1: Mares' milk, a food of animal origin very popular in Mongolia. This milk produced in a given terroir, and local ecosystem provides nutrients to the local population in Mongolia, which is landlocked and chronically food insecure according to the FAO definitions.

Mongolians get their omega-3 fatty acids (mainly present in sea food fish and shellfish and other marine species) from the milk of Mares horse, a local breed, as result of the combination of a genetic trait of that animal and the biodiversity within the native grasslands in Mongolia. Those animals have these

omega-3 fatty acids in their meat and their milk and can provide the needed nutritional values to the population. This is an example of a sustainable diet based on local ecosystem approach and local quality products which could qualify as GIs.

Example 2: A study from the Federated States of Micronesia

During the 70s and 80s the populations have neglected their biodiversity and were importing convenience foods and other manufactured foods from developed countries. The health sector noted that the population, especially the children, were suffering from micronutrient malnutrition (i.e. vitamin).

One of the initiatives was a nationwide program to supply vitamin A to the population but it was not very effective. At the same time a scientist involved in this work on indigenous people's food systems started analyzing the local bananas.

- Native bananas part of the ecosystem contains more than 8500 micrograms of provitamin A carotenoid ;
- Imported bananas contains no provitamin A carotenoid (less than 5 micrograms per 100 grams)

There are many examples where the biodiversity of the local conditions provides the adequacy to the diet of the population. A study covering 12 different world regions proved that more the local populations strayed from their traditional diets, including food linked to their ecosystem and biodiversity, more chronic diseases micronutrient malnutrition raise. .

Others examples (i.e. rice, wheat, grape…) emphasized the fact that there are many differences at the genetic level and this is why diversity related to that genetic resource itself is important. Within the same species, there are plenty of different varieties found in different locations, different terroir, geographic situations and their differences are huge (i.e. protein, micronutrients other components related to glycemic index…). These are not just statistically significant differences, but nutritionally significant differences related to the variety and the place where it is grown.

Example of the grapes in Italy: different regions with different wines, the key difference in the grape variety depending on the combination of biodiversity and the place of origin.

Click here for the full presentation.

Importance of the microbiota and how GIs can contribute, Christophe Chassard, French National Research Institute for Agriculture, Food and Environment (INRAE)

The gut microbiota has been an emerging field in scientific research during the last 20-40 years. Humans' intestine contains about 1.2 kg of bacteria and there is a huge diversity in terms of microbes at the species level (more than 2000 or 3000 species). The most important element is the diversity of the microbiota and its balance as the microbiota can be in two states:

- Eubiosis : balance microbiota.
- Dysbiosis: when the microbiota is changed, its composition is different, most of the times diversity is reduced.

This concept is important because scientists from many different groups worldwide clearly notify the risks associated with dysbiosis, and related diseases (i.e. gut-brain axis disorders or functional disorders, inflammation related disorders).

Hypothesis:

The massive change in lifestyle, especially in western countries for the past 60-70 years, right after the Second World War led to the observation of a change in the balance between infectious diseases (decrease) and the immune disease (increase). The hypothesis connects the increase in immune diseases for the past 40 to 50 years to the less exposure of environmental factors relied to it (i.e. microbes), which is true for many different foods and diets.

Interaction with the microbiota and connection to diagnosis that can occur, using fermented food (cheese, kefir…) can impact human health. An important point is the complexity and diversity of microbes and of course GI products are interesting on this point.

Example of the microbial composition of cheese. The recent research on cheese microbiota effects on guts is mainly focused on probiotics, but in fact they represent a very limited group of microorganisms (Lactobacillus) while there is less knowledge on others groups and their benefits and colonizing potentials for the gut microbiota.

Impact of cheese on the human gut microbiota.

The different studies done on this topic have controlled the survival of this cheese microbes in the gut microbiota (i.e. Camembert type of cheese), and they showed that these microbes can survive in the guts but also that it is possible to modulate the gut microbiota after cheese consumption.

➔ There are different responses depending on the cheese type and its characteristics (especially its microbiota). Microbial association can be positive for the health.

How to collect the potential effect of this food?

There are some data from epidemiological studies that show raw milk consumption can contribute to the child protection against asthma, allergies, immune diseases, and respiratory infections. For cheese, authors have demonstrated that cheese consumption would contribute to the child protection against atopic dermatitis and food allergies: before 18 months can have direct impact at six years old child.

Conclusions

- Fermentation has a great role in producing bioactive peptides and vitamins that can be interesting for nutrition. Microbial organisms are also important as they interact directly with the immune system.
- The most crucial element that can be found in fermented GIs products is the microbial diversity because of health interaction with the microbes but also the related richness of the product it (metabolites that can be produced and can have positive impacts).
- There are also data on cheese that shows that they can have positive impacts on blood pressure for instance and as a protection against some diseases.
- It is finally very important to promote research at the higher level, but it is also possible to do more on preclinical level by working with models.

Click here for the full presentation.

Everyday eating and GIs – tradition and health, Virginie Amilien and Gun Roos, researchers at Consumption Research Norway SIFO at OsloMet – Oslo Metropolitan University in Norway.

The Strength2Food research project, involving about 20 researchers and seven countries, assesses the impacts, exchanges knowledge, and informs policy making on sustainable food chains with the aim of improving the effectiveness of current policies on food quality designations. The project explores a possible contribution of GI products to diversification and more sustainable consumption. The research adopted a qualitative consumer approach (consumption perspective).

When speaking about consumption, there is are at least four phases to consider:

- to plan ;
- to purchase ;
- to use;
- and throw away.

How can we link GI food products with all those phases in consumption? Or can we do it better than now? Is there any meaning to do it?

The focus is on the consumers' collective approach and on the potential and cultural identity of GI products and on the eventual way to promote this link. It is not so often that we used the consumer gaze as the prism of consumer practices about GIs. The main reason is that consumers know very little about GIs and do not associate them to health.

- One reason could be linked to the use of GI and the fact that we were studying everyday consumption as there is a huge difference between everyday consumption and special occasions.
    - While sustainability can be part of everyday eating, GIs are often part of the second group because of their typicity, traditionality, originality and price.

- Health is usually a central issue in relation with daily consumption, as “special occasion” are related more to pleasure, taste, culture, tradition and hence, health may be not so important in this second group.

- The second reason could be the meaning of the GI (i.e. “why those labels do exists and what can consumers get from them?”). Consumer’s information is often considered the reason of labelling (i.e. PDO and PGI). Nevertheless, GIs are not established for consumers’ information or related to consumers’ consideration - except very special cases - as they are mostly about supporting the work and culture, the protection of cultural heritage.

➔ It means that GIs are built on very strict specifications, but individual health and wellbeing are often not an explicit element included

The project looked at the trend to improve the effectiveness of current policy on certain quality food:

- We did some qualitative work on the field with households across seven countries to observe the everyday food practice in shopping. The results showed that there are some GIs products used every day but not so many.

- A quantitative study was also done on the recognition of EU labels by country and it appears that the recognition rates are generally higher in some of the southern European countries than in northern European countries with low rate.

Both these approaches underlined that consumers do not know much about GIs and the specifications that many producers must follow and respect. There may be here a potential to inform more about the types of specifications which are contributing to diversified and healthy diets.

Regarding the way GIs are processed, they are both sort of fresh product and more processed.

- For the fresh products. It seems like the consumers have ambivalent relationship with them: it may be better greener and healthier but maybe not based on solid background and on the contrary they can also associate GI with traditional food, based on older recipes and maybe too much salt and sugar content.

- About more processed GI products, they may be considered as more traditionally produced unlike ultra-processed products, so there might be some potential for these products.

Recommendations

- Regarding the link between GIs and health, all field works enlightened the importance of trust for local products for consumers and quality food. There is an intimate relationship between who has been producing or cultivating and the consumers. It could be a potential area of improvement (i.e. emotional practices).

- Know-how and local culture. Today presentation underlined the importance of global biodiversity, the added value shared is easily visible in small scale business (but GIs are not necessarily small scale).

    - For small scale there is a possibility to emphasize the intimacy between local place and local people/ consumers;
    - For large scale, we can find a similar relationship where people do not have a direct but a kind of virtual contact (i.e. hyper real knowledge of the GI).

- Cultural understanding of health. The consumers have not the same cultural frame about what is healthy or not, which increase the complexity of this issue. It is then important to frame what we mean by "healthy" in each case as it is important to define GIs from product to product (i.e. fresh product / process product that are completely different in terms of health).
- One solution could be to advice consumers: well-informed consumers have not the same approach to healthy food than common people.

➔ Finally, before thinking a concrete contribution of GI products to diversify healthy diets and before further informing consumers, it is necessary to explore the impact of cultural frames understanding and knowledge.

Main conclusions

- GIs are not a visible part of everyday food practices but there is a close relationship between these products and what they represent and the trust of the consumers ;
- While consumers show a great interest in health, they do not really recognize GIs as healthier (i.e. use of pesticides and chemicals) ;
- *So then how to promote GI in health?*
    - We think that traditional marketing methods have shown do not work very well for GIs. But what can be done is to improve the relationship between producers and consumers and develop more educational programs, more interactivity with the shoppers and eaters ;
    - There is a need of research to look at this issue as well as at the cultural references of GIs products and their impact on consumers' behavior.

Click here for the full presentation.

Breakrooms discussions towards recommendations for practitioners and public authorities

Group a: How to develop further the knowledge on the link between traditional products, GI, and sustainable healthy diets?

Moderator: Céline Spelle, Réseau Fromage de terroir

Introduction

We saw in the FAO background paper that there are three main mechanisms for GIs to contribute to healthy diets:

- GIs identify food with specific nutritional values due to a specific local condition. Diversity in agricultural practices is a key element to provide a diversity of nutritional profile in the products,
- GIs specifications can be tools to encourage the quality and nutritional and health aspects,
- GI products can also be part of a balanced diet and a way for consumers to diversify their intake and have more low processed food and with different quality of product.

Recommendations from the discussions:

- Improve the quantity and quality of food composition data.
    - At the international level. Reinvigorate the FAO INFOODS data system, focusing on biodiversity in order to, among other purposes, identify the nutritional benefits of mainly raw and primary products and minimally processed foods and to encourage countries to continue to incorporate those data into their national food composition databases. In fact, one way to promote the healthy aspect of these local GI food products with is to ascertain and promote their unique nutrient content.
    - At the national level. Countries that have national food composition programs should undertake a more vigorous analytical program analyzing nutrients and other bioactive beneficial non nutrients in their local food biodiversity or GI products (i.e. microbiota in cheese).
    - Improving the knowledge about the food safety of GI products as it is an important information for consumers that can sometimes lack on GI products.
    - Recommended method: to go straight to the policymakers and institutions in every country or organization as the European Union.

- Inform. Find a common method that could be useful and easy to understand for consumers and that could help to indicate to the consumers how to integrate some GI products in a balanced diet (i.e. serving size on the front of the packaging) knowing that consumers are confronted with too much information today and often get lost (i.e. difference in knowledge about GIs between southern and the northern Europe). This approach could be a more comprehensive tool in comparison with "traffic lights" or NutriScore Logo than can be controversial and reductive (i.e. Mediterranean Olive Oil, poorly rate despite its benefits for health).
    - Recommended method:
        - As classical marketing information is not very helpful regarding GIs (i.e. logo that are not seen or understand by consumers), what is recommended is the use of more interaction: research studies (i.e. in the USA) showed that interaction can be a useful tool to share information. Interaction can be an adapted way to inform about GIs by making the consumers understand how GI products are made and what a GI means, and thus developing in consumers a special interest for this kind of food. In the era of globalization, interaction can be a way for consumers to better understand their needs and how local production can provide them what they need (i.e. Mongolia diet, Mares' milk).
        - Educate. For example, long-term programs in some south Europe countries (i.e. "Semaine du goût" in France) that can be developed in the rest of the world.
    - Taking cultural aspect in consideration. Need to take in consideration cultural aspects of GI products as they will always be kind of very rare and relatively expensive and special in diets in certain countries whereas they will go on being kind of commodities in their own region of origin. There must be a specific way of envisaging GIs, a way of diversifying and discovering other elements to locally rooted diets rather than having the idea of transferring, imposing or promoting a specific diet from a specific region to other regions.

- On process and ultra-processed food.
    - Improving consumers' knowledge about processed and ultra-processed food and their differences. Clarify more what ultra-processed food is and how it can have bad effects on health (i.e. lot of evidence showing that this ultra-processed food is contributing to NCDs). Document more on the process of GI products and highlight their differences with ultra-processed products that could be equivalent as GI products are relatively often low process food, more natural regarding their ingredient and specific characteristics.
    - Recommended method. As ultra-processed food represents a health problem, there is a need to advocate for more regulations at institutional and national levels regarding the complexity of this issue (especially regarding consumers' knowledge) and the difficulty for consumers to understand it.

- **Specifications can be** a tool to contribute to healthy sustainable diets and research. Support producers while elaborating the specifications. Advocacy actions (i.e. SlowFood at national and European level to include more sustainable criteria in regulations regarding specifications production protocols for GIs; Slow Food work on this subject: https://n4v5s9s7.stackpathcdn.com/sloweurope/wp-content/uploads/ENG_DOP.pdf).

Group b: "How to raise awareness of producers on how to better preserve the nutritional quality of their products?"

Moderator: Nathalie Vucher

Objective of the working group

Discussion on how to improve producers' knowledge on the way they can develop, preserve and give more value to the quality (nutritional) of their products and better communicate on it.

Research question

Society expectations are very high, and GIs could potentially benefit of a better nutritional value attributed to products. *How* can producers and their associations (where existing) give more value to the (broad) nutritional quality of their products? What is the role of specifications in this regard?

Highlights

- Anecdotal evidence suggests that there is a nutritional advantage of GIs. The presence of ancient breeds/endemic crop species/local varieties, intrinsic quality, adaptation to the terroir are all features eventually contributing to the nutritional quality of a GI. Also, GIs can enable diversified diets and nutritious diets (for instance some GIs could regulate the use of nitrate that normally confers a pink colour to food).
- EU NutriScore is not the best tool to assess a GI nutritional value. The nutritional matrix for instance is also very important, has a very strong impact on the metabolization and the way the body would use nutrients, and is not captured by NutriScore. Assessing the nutritional value of any GI product based on the strict standards imposed by NutriScore could risk compromising a GI product's specificity and/or identity. On the other hand, NutriScore would not allow to assess aspects as for instance sugar assimilation that is key to determining the broad nutritional value of a product. Other assessment tools are therefore needed.

Issues

- There is a general lack of scientific evidence on the nutritional quality of GI products, both in terms of nutritional components and nutritional aspects (e.g. digestibility, assimilability).
- Producers often lack knowledge or are simply not aware of specific organoleptic aspects, quality aspects of their products/of specifications. When they are aware, they might not know how to value them.

- Cross-cutting (demanding) regulations normally put a burden on traditional/GI producers (trying to catch up with industrial products) and these producers often tend to have a more reactive/defensive rather than pro-active approach.
- There is a difference between GIs that are not on the market because they do not belong to day-to-day consumption (e.g. special location products) and those that are. This is not an issue per se but needs to be highlighted. Some GIs have a cultural value, in a sense they would "feed our mind" more than just our body and this needs to be valued as well.
- Producers' organizations often do not have the financial capacity to carry out analysis or studies and explore nutritional correlations/aspects in their products.

Recommendations

- Work intensively and with more attention on the specifications, on those aspects that are often overlooked/omitted or poorly valued but that can directly lead to a better quality of the product (e.g. orange color in a carrot=carotene).
- Nutrition experts that can communicate on the nutritional value of foods, are normally missing in GI working groups. They should be more and more included in working groups of the GI specifications.
- There is normally conflict between the economic imperative of stimulating production and preservation aspects that should be embedded into GI development (preservation of natural resources, culture, traditions etc) and this should be acknowledged in any approaches tackling the important issue of nutritional aspects of a GI.
- The role of international institutions (oriGIn, FAO, WIPO, others) is to ensure that producers are properly coached and accompanied in both (quality) specifications drafting as well as follow-up activities. Policy dialogue and scientific work (for instance when producers lack financial means to carry out scientific analysis) is also extremely important.
- Need more documented work to demonstrate that low-process products are of nutritional interest to consumers.

Group c: Following which indicators, and according to which modalities, better communicate to consumers on GIs can contribute to sustainable healthy diets?

Moderator: Sophie Réviron

Recommendations

A) How to develop further the knowledge on the link between traditional products, GIs, and sustainable healthy diets?

- Need to gather more data to have databases that show the diversity of the agricultural products and diversity of nutriments ;
- There is a need to highlight the microbiological diversity of some products, including GI products;

- How can we justify and promote GI consumption in balanced diets (ref to Nutriscore) while taking into account the cultural dimension of the diets which is extremely important ;
- There is a need to do more research on GI products as being not highly processed which are more positive on health perspective ;
- It is necessary to see how GI specifications can integrate elements to show the sustainability benefits of GIs on environment and healthy diets ;
- How can we inform and educate consumers, for example through their interactions with producers or their representatives.

B) How to improve producers understanding / expectations of society?

- There is a need for GI producers to look at what they already have on the nutritional quality perspective as a lot of GIs have a positive impact on nutrition (e.g. good taste of fruits and vegetables will bring more consumption) ;
- How to go that way when in a very small GI.

C) Should healthy diets be part of the GI communication?

- There is an agreement on the fact that there is a need to communicate on this aspect while being confronted with campaigns against salt, fat, animal-products ;
- On that point, there is a need for long-term communication campaign on media and platforms;
- A positive communication approach is needed: how can GIs contribute to a balanced and healthy diet ;
- Thinking GIs globally and not GI per GI is a must ;
- The message to convey is simple: GIs are not highly processed; the list of ingredients is short and include no innovation (GMO free, additive free)
- GIs products are tasty and synonyms with pleasure and other values (family, regions, tradition, happiness) it is important to show that what is behind the product in terms of health to population include many aspects and not only nutritional ones.

Wrap up and conclusion

oriGIn President, Mr Claude Vermot-Desroches ended the webinar by thanking all the speakers, moderators, and participants encouraging to further explore the topic of GIs contributions to healthy diets.

List of registered participants

137 participants registered for the online event.

Country	Name	Family name	Organization
Algeria	Belmehdi	Abdelhafid	Ministry of Agriculture
Barbados	Anne	Desrochers	FAO-Sub-Regional Office for the Caribbean - SLC
Barbados	Wendy	Hollingsworth	Policy Networks International
Belgium	Nathalie	Nathon	EU Commission
Belgium	Amine	Khaldoun	Représentation régionale des Pays de la Loire
Belgium	Francesca	Alampi	AREPO
Belgium	Yael	PANTZER	Slow Food International
Belgium	Milena	Fontana	Beacom Communication
Belgium	David	Thual	Trade Insight
Belgium	Mathilde	Chareyron	oriGIn EU
Brazil	THOMAZ	FRONZAGLIA	Brazilian Agricultural Research Corporation (Embrapa)
Brazil	Marcello	Broggio	FAO Brasil
Cameroun	Esther	Ngah	Université de Ngaoundéré, Ngaoundéré - Cameroun
Cameroun	Josiane	LELEE TAGNE	OAPI
Central African Republic	Alfred	Bangue	Projet TRI/RFP FAO Centrafrique
Colombia	Luis Fernando	Samper	4.0 Brands
Colombia	Daniela	Serra	Master Food Identity
Costa Rica	María Patricia	Sánchez Trejos	CeNAT/CONARE. Área de Gestión Ambiental
Côte d'Ivoire	Bonny	Dadji	
Croatia	Blanka	Sinčić Pulić	ISTARSKA ŽUPANIJA REGIONE ISTRIANA
Dominica	Ryan	Anselm	FAO National Correspondent

France	Maite	Puig de Morales	IAMM
France	Brigitte	Bonet	Qualité et Territoires - AANA
France	Diana	Ugalde Jalenques	Research Unit GRAPPE ESA INRA
France	Sonia	DARRACQ	Embassy of France - Nigeria
France	Dorothée	BOYER-PAILLARD	Lawyer - Experte auprès de l'Organisation Internationale de la Vigne et du Vin
France	Delphine	Marie-Vivien	CIRAD
France	Nao	HAYASHI	UNESCO
France	Cathy	GAUTIER	Groupement Régional pour la Qualité Alimentaire
France	Charles	Perraud	Sel de Guerande
France	Catherine	Teyssier	Consultant FAO
France	Sabine	Edelli	INAO
France	Denis	Sautier	CIRAD
France	Sibylle	Slattery	FAO
France	Selena	Travaglio	Community Plant Variety Office
France	Meenakshi	Prasad	Community Plant Variety Office
France	Laurent	ROY	Consultant
France	Solène	Blanc	oriGIn
France	Akane	Nakamura	UNESCO - Asia and Pacific Unit
France	Rafael	Villota	Paul Bocuse Institute
France	ORHANT	Léna	Student MSc Food Identity and ingénieure agronome Ecole Supérieure d'Agricultures (ESA)
France	Camille	CLAVIER	Student in double diploma Master Food Identity & Ingeneer ESA
France	Simoun	Bayudan	Master Food Identity
France	Léna	Orhant	ESA Master Food Identity
France	Sylvie	COLOMBIER MARION	COMITÉ POUR LE SAINT-MARCELLIN IGP
France	Yazú	Romero	Master food identity

France	Chinaza	Arinzechukwu	Master food identity
France	Claire	BERNARD-MONGIN	UMR Innovation, Cirad
France	Christophe	Chassard	INRAE
France	Nathalie	Vucher	INAO
France	Claude	Vermot-Desroches	oriGIn-oriGIn France
France	Sebastien	Breton	oriGIn France
France	Céline	Spelle	CNIEL
France	Chene	Christine	Adrianor Ingrédients Alimentaires
France	Jean-Loup	Lecoeur	Agrosup Dijon/OsloMet
Georgia	Ia	Ebralidze	Elkana
Georgia	Mariam	Jorjadze	ELKANA
Germany	Karola	Schober	Bayerisches Staatsministerium für Ernährung, Landwirtschaft und Forsten
Germany	Alexander	Hugel	Kompetenzzentrum für Ernährung – KErn (Competence Center for Nutrition)
Greece	Sofia	Nikolaidou	Hellenic Open University, School of Social Sciences, Greece
Greece	Dimitra	Gaki	Université de Thessalie
Greece	Theodosia	Anthopoulou	Panteion University of Social and Political Sciences
Greece	Hristos	Vakoufaris	Ministry of Rural Development and Food
Greece	Lamprini	Diamanti	Region of Thessaly
Greece	Stavriani	Koutsou	International University of Greece-School of Agriculture
Grenada	Trishia	Marrast	Ministry of Agriculture
Grenada	Rena	Noel	Ministry of Agriculture
Guinea	Cécé	Kpohmou	BSD/MIPME
Indonesia	MIRANDA	RISANG AYU PALAR	Universitas Padjadjaran
Iran	Mona	Kanan	Consultant IPI Project Iran

Italy	Andrea	Marescotti	University of Florence
Italy	Annamaria	Fumarola	External consultant ISMEA
Italy	Maria Giulia	Mariani	Consultant
Italy	Gennaro	Giliberti	Regione Toscana- Direzione Agricoltura e sviluppo rurale
Italy	Giovanni	Belletti	University of Florence
Italy	Cristina	Vaquero Pineiro	University Roma 3
Italy	Angela	Crescenzi	Regione Toscana- Direzione Agricoltura e sviluppo rurale
Italy	Francesca	Ponti	Regione Emilia Romagna
Italy	Emilie	Vandecandelaere	FAO
Italy	Arianna	Carita	FAO
Italy	Achille	Bianchi	BRE ARCHIMEDE SALERNO
Italy	Nina	Coates	FAO
Italy	Mohammed	Ahdi	FAOLOW
Italy	Sharon	Mendonce	Nutrition Mainstreaming Intern in ESN FAO
Italy	Beatrice	Biasini	University of Parma
Italy	Valentina	Pizzamiglio	Consorzio Parmigiano Reggiano
Italy	Endo	Yoshihide	FAO (OCB)
Italy	Andrea	PoloGalante	FAO
Italy	Manuel	Anta	FAO
Italy	Florian	Doerr	FAO
Italy	Giulia	Sirna	Qualivita
Italy	Isabella	Taglieri	Università di Pisa
Italy	Angela	Zinnai	Università di Pisa
Italy	Paolo	Caselli	Consorzio Seggiano DOP

Italy	Stefano	Preti	Regione Toscana- Direzione Agricoltura e sviluppo rurale
Italy	Marta	BuenoTarodo	FAO
Italy	Bin	Liu	FAO
Italy	Florence	Tartanac	FAO
Italy	Andrea	Pologalante	FAO
Japan	Junko	Kimura	Hosei University
Japan	Junko	Kimura	Hosei University
New Zealand	Barbara	Burlingame	Massey University
Norway	Virginie	Amilien	Oslo Metropolitan University
Norway	Gun	Roos	Oslo Metropolitan University
Peru	Alejandra	Arce Indacoche	International Potato Center
Portugal	José	Massuça	University - Universidade de Trás-os-Montes e Alto Douro
Portugal	Nuno	Reis	University of Trás-os-Montes and Alto Douro
Portugal	Barbara	Lamolinara	University of Evora and of Trás-os-Montes and Alto Douro
Portugal	Tiago	Pontinha	Utad- Doutoramento Agronegócios e sustentabilidade
Portugal	Rui	Barreira	ANP|WWF
Portugal	Sandra	Ferreira	University UTAD
Portugal	Ana Alexandra	Marta-Costa	Universidade de Trás-os-Montes e Alto Douro /University of Trás-os-Montes and Alto Douro
Sao Tome Principe	Claudio	Pinto Vicente	Programme des Nations Unies pour le Développement
Spain	Rebeca	Vazquez	Origen España
Spain	Eduardo	Haba	Consejo Regulador Quesos de Murcia DOP
Spain	Fleur	Leparquier	Consultant
Spain	Francisco	Mate Caballero	Subdirector Gral de Control de la Calidad Alimentaria y de Laboratorios Agroalimentarios
Spain	Mario	Alves	PhD student of Agribusiness and Sustainability

Sri Lanka	Sarada	De Silva	Ceylon Cinnamon GI Association Sri Lanka
Switzerland	Nathalie	Hirsig	IPI Switzerland
Switzerland	Claire	Philippoteaux	Swiss Contact - COLIPRI
Switzerland	Vladimir	Yossifov	Consultant IP Services and Management
Switzerland	Elise	Tancoigne	University of Geneva
Switzerland	Theresa	Tribaldos	University of Berne
Switzerland	Massimo	Vittori	oriGIn
Switzerland	Erik	Thevenod-Mottet	IPI Switzerland
Switzerland	Ida	Puzone	oriGIn
Switzerland	Alexandra	Grazioli	WIPO
Switzerland	Zeinab	Ghafouri	IPI Switzerland
Switzerland	Jean	Landert	FIBL
Switzerland	Sophie	Reviron	AGRIDEA
Thailand	Stephane	Passeri	FAO
UK	Patricia	Covarrubia	University of Buckingham
Uk	Anna	Bolin	International Institute for Environment and Development (IIED)
Ukraine	Hanna	Antonyuk	Expert- EU project Support to development of GI system in Ukraine
Ukraine	Iaroslav	Andreiev	EU funded project "Support to the Development of the Geographical Indications System in Ukraine
USA	Philippe	Jeanneaux	UMR Territoires - VetAgro Sup