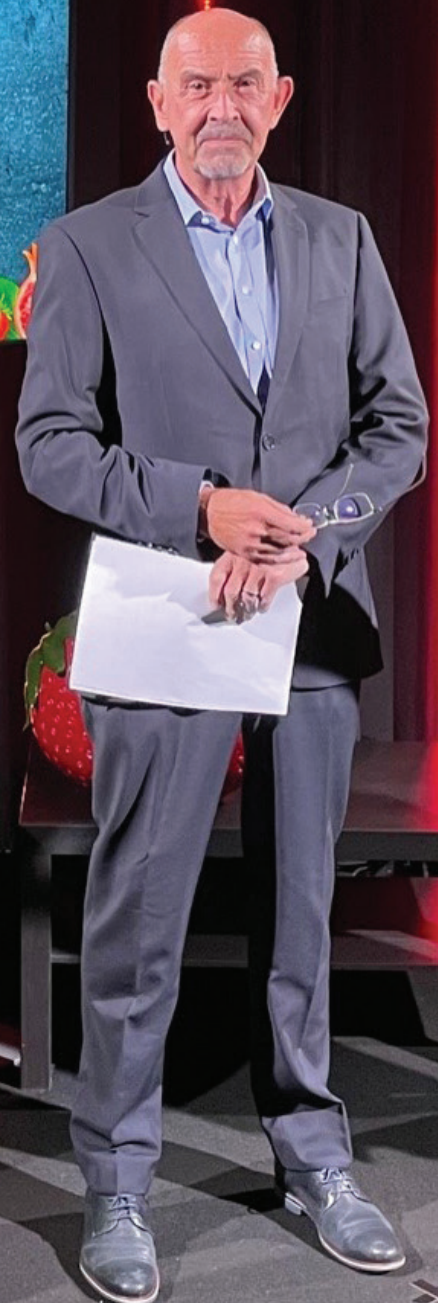




Juiceletter

DECEMBER 2021



IFU President Kees Cools moderating the session "The Juice Supply Chain – Outlook and Challenges" at the Juice Summit TV 2021



Sharing Knowledge Globally

KEES COOLS, IFU PRESIDENT

Dear IFU members and friends,

We hope that during 2021 IFU activities have been able to support you in achieving your objectives in the Food & Beverage industry.

The IFU has big ambitions for the future. Building from a strong foundation we will continue to build for the benefit of the global industry. We have identified substantial potential new members worldwide, operating in geographies where consumption of fruit juice is still low, plus globally a new potential with food companies that use processed fruit and vegetables in applications such as confectionery, bakery products, dairy & ice cream, in alcoholic applications and many more. Our methods of analysis and other resources will assist these industries as they do within the juice industry.

To reach out to this new target membership we have started to set up a team of regional ambassadors bringing IFU to their regions but also bringing their specific interests and requirements into the IFU. These colleagues are partners from within our industry and bring many years of experience and excellent relevant network connections.

In the past years we were able to increase our staff at IFU which has helped to increase our service and activities. With the previously mentioned ambitions comes the need to further professionalize the organization, therefore we intend to grow the number of staff, aligned with the growth in members. To upgrade our capabilities, we will benchmark peer organizations in other industries as well as implement great ideas that come from within the IFU's own global structure.

Covid-19 continued to force us to operate in a two-dimensional world. As a consequence, most interactions

like commission meetings, roadshows, workshops and even the yearly juice summit took place using digitalized platforms. Technology has evolved and so has IFU's ability to use the modern communication which has turned our virtual meetings into efficient and pleasant events. For a global organization such as the IFU this virtual exercise turned out to be a blessing in disguise as it provided many new participants from all over the world an easy access without travel to join the professional dialogues. The digitalization at IFU will continue to play an important role going forward, by us using social media for communication as well as virtual platforms and an upgraded website.

Our 7 commissions and expert working groups have worked hard on many important industry issues and they also have big ambitions for the future. With our globalization and membership initiative we are striving to populate all our commissions with participants from all corners of the world. Two important matters have enacted IFU this year to set up 2 new working groups. For us this was an obvious as well as logical step since sustainability and nutrition are part of the core of our business and at the top of our agenda. Besides all other opportunities and challenges, it was these two issues in particular that needed lifting and shifting to the next level. With various global partners IFU will put in a substantial amount of effort in the coming years to harmonize the playing field, create an overview, provide transparency and deliver scientific support.

Again 2021 was another big learning. Let us take forward what we learned and share the knowledge globally in support of a healthy industry and membership.

All of us at IFU wish you a healthy and prosperous 2022.

Kees Cools
IFU President

Legislation commission work from 2021 – an update

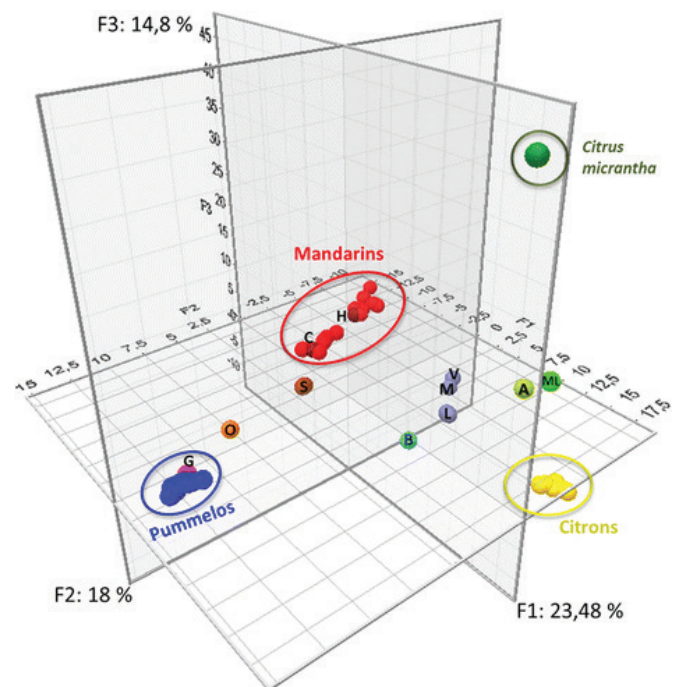


DR. DAVID HAMMOND LEGISLATION CHAIR

Although there have been no physical meetings of the LC this year, this has not stopped us progressing a number of important items through the Commission. Topics addressed have been:- orange taxonomy, looking at the legal standing of sugar reduced “juices” under Codex STN 247, preparation of a paper on comminutes and one on best practice on simple authenticity control of juices. Topics associated with Codex committees have addressed, the IESTI equation (CCPR), front of pack nutritional labelling (CCFL), use of emulsifiers, stabilisers and thickeners (EST) in juice products (CCPFV/CCFA) and lead levels in juices and juice products intended for infants and small children (CCCF) to name a few.

Citrus taxonomy

This was a topic raised by the Florida Citrus Processor Association (FCPA) at the LC. From DNA evidence, it is now well established that *Citrus sinensis* is not a “true” species of the Citrus genus but a hybrid between *C. reticulata*/*C. grandis*, as illustrated from the figure from the paper by Curk et al from 2014. This plot shows the intermediate position of *C. sinensis* (O) between the true Citrus species mandarins (*C. reticulata*) & pummelos (*C. grandis*). FCPA wondered if this information could be used in their fight against “citrus greening” (HLB) which is devastating their fruit production. In the early 1990’s Florida was producing around 200 million boxes of oranges per year, whereas production for 2021/22 has been forecast to be as low as 47 million boxes! This is placing a significant strain on orange juice (OJ) production and FCPA wondered if this new DNA information could be used to assist in their fight against greening, as it is known that some mandarin hybrids are more resistant to HLB than the fruit hybrids presently considered as *C. sinensis*. This is illustrated in the



pictures here where “sugar belle”, which has been grown for many years in regions of high HLB contamination, but the trees are still healthy and showing good fruit yields. The second picture shows the effect of HLB on a *C. sinensis* variety that is in very poor condition in comparison.

These two features promoted FCPA to approach IFU to investigate if there were any pathways by which different citrus hybrids might be considered suitable for OJ production. The LC has worked through this issue and have proposed setting up an expert group to develop guidance by which new and existing hybrid varieties could be assessed for their suitability as fruits for OJ production. The group will start work in the new year and report back to the LC and IFU Exec regularly on its progress in this area.



Citrus comminutes and authenticity control

The legislation commission has prepared two papers during the year. A question often posed by members of IFU is what are citrus comminutes and how should they be classified. They are typically by-products of juice processing and used in soft drinks. They are extracts of the whole fruit, including the albedo and flavedo portions of the fruit, which excludes them from the definition for juice as given by Codex STN 247 (2005). They were originally developed to prepare “squashes”, a dilutable soft drink, but are now used in many other soft drink applications. Their preparation is typically propriety to the manufacturer who adjusts their process to meet the product specification from a customer. **“Useful definitions for products used in beverages, derived from citrus fruits, excluding juice, an IFU opinion. (2021)”** The second paper is a best practice document to assist companies in controlling the authenticity of the juice products that they purchase. The **document** highlights some of the risk and techniques by which these risks maybe mitigated.

Codex committees

The LC has been involved in work at Codex committees to defend and promote the position of the fruit and vegetable juice industry. The LC has looked at sugar reduced “juices” and their position within the definitions given in STN 247. Clearly, these types of products do not fit under the present definitions, but there is general support within the group that these products could be accommodated by a revision of the Codex Standard in the future if there is industry support This year has involved on going work to try and limit the effect of changes to the IESTI equation that risk assessors use in their deliberations in formulating safe MRL levels for pesticides for foods and feeds. There was a proposal

a few years ago that this equation should be altered, due to short term safety concerns, which could have removed a number of Codex CXL for pesticides. It now appears as if there is no general support for this move by member countries at CCPR and a final decision will be taken at CCPR 53 next year. We also advised the committee on the redevelopment of the group structure for fruit and vegetable juices and suggested, due to different growing habits etc, it would be better to have two “juice” sub-groups one for fruits and the other for vegetables, which was approved.

Another topic tackled this year at the contaminants committee (CCCCF) was setting maximum exposure levels (MLs) for lead in products intended for infants and small children. Here we were partially successful in retaining the ML for grape juices at 0.04 mg/kg. Unfortunately, due to lack of data, specifically on juices intended for these consumers, we were unable to get a higher level adopted for juices derived from small fruits and berries as we have for juices intended for regular consumers. This means that all fruit juices, except from grape, intended for infants and small children will fall under the 0.03 mg/kg level adopted for juices prepared from normal sized fruits like oranges, apple etc. It was decided at CCFA (food additives) that the issue related to the use of ESTs in fruit juices, that could not be resolved by CCPFV, will be discussed in an electronic working group (EWG) on the General Standard for Food Additives (GFSA) starting next year. The LC is in discussions with ICBA to see if a consistent stance can be developed for the use of these types of materials in juice derived product, which we hope can be presented to the EWG for their consideration. Work has also been undertaken for CCFL concerning an Internationally adopted standard for Front of Pack Nutritional labelling.





STC activities report

2021 December

MARIO GOZZI SCIENCE & TECHNOLOGY CHAIR



The IFU Science and Technology Commission has dedicated its efforts to bring forward several relevant projects and research topics and has held regular meetings during the year.

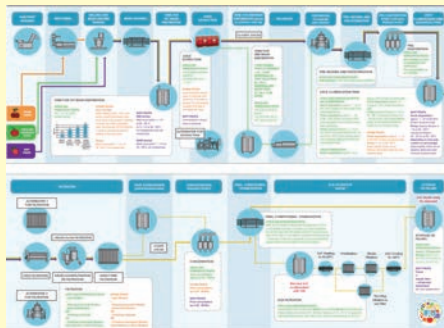
The Commission continues working on the development of the following Best Practice Guidelines:



1) “ Clear Juices: Processing Phases and Haze Stability “ BPG: this guideline aims at covering the whole process of fruit juices from extraction, clarification, all the way to filtration with the exclusion of stabilization and storage.

On Appendix I, Test Method Comparison, we are providing thoughtful comparison of test methods from a series of companies and institutions (Eaton, Novozymes, Geisenheim University, IFU methods of analysis and Erbsloh). This work has highlighted differences in the various approaches and has led us to propose a revision of IFU Method of Analysis 84 (stability test of clarified juices 2017) from the Methods of Analysis Commission.

A conceptual diagram for clear juices summarizing the processing phases and main parameters has been developed (see image below) and is under final revision.



2) “By-products from juice processing. An index of the topics to be developed has been nailed down to cover all the most important

trends in this sector. Once completed, the Best Practice will include chapters on production of bio plastics, thermo valorisation, production of bio energy, production of bio active compounds, recovery of product cues, transformation of waste for animal feed or land filling, economical considerations. For the time being, two chapters have been developed:

a. Chapter 2: Thermal valorisation of by products.

A few processing schemes have been collected from juice processors, and a few mass balances have been developed to better show the working principle of these lines. Consultation with some companies utilizing Thermal Valorization is under way. A feasibility analysis to validate this type of investment will be developed. This chapter is expected to be finished within first half of 2022.

b. Chapter 4: Extraction of bio active nutritional compounds: pectin extraction from citrus by products.

The draft document has been completed and is currently undergoing a critical revision of experts. Expected due date within 2022.

Other activities in which the STC has been involved are:

- **Launching of the Nutrition Working Group.** With 28 participants from 12 countries, the group is Chaired by Diane Welland.
- **IFU - University Summer Digital School.** A digital and pill-format seminar on Juice extraction technologies and Thermal juice stabilisation was celebrated on June 15th with great success. The next IFU – University Summer School will be presential and will be celebrated in Parma, Italy with a full program including lectures, practices in laboratories and pilot plants, running from June 21 to June 23, 2022.
- **HiStabJuice project.** The Early Stage Researchers recruitment has been completed and the eleven students took place at the respective locations. The first samples of frozen unpasteurized strawberry puree for analysis have been distributed among the participants to start analysis of endogenous microbiology, nutrients and enzymes. In a second phase, the effects of four different stabilization technologies will be tested: Pulsed Electric Fields, Ohmic, High Pressure Processing and Conventional Heating. The first annual consortium meeting took place virtually on November 18th with the follow-up of the activities and the planning for the tasks for the months to come.

Microbiology Working Group activities report



2021 December

DR. ANDREAS POLITZER MICROBIOLOGY CHAIR IFU



The IFU Microbiological Working Group (MWG) has met thanks to the remote e-working tools five times during 2021, which has contributed to have a closer follow-up of the MWG activities.

In September 2020, IFU requested the liaison with the ISO Technical Committee 34 Sub-Commission 9, but ISO was silent for many months. In October 2021 the ISO Central Secretariat validated the eligibility of IFU as a liaison organization, but it needs to go through a consultation within members of the ISO/TC 24/SC9 to accept the liaison, which is expected to be finished by the end of 2021.

The IFU MM2 Total Acid-tolerant Count of Potential Spoilage Microorganisms has been fully revised, and the inter-laboratory validation study completed by our group member and partner Neogen with successful results. Therefore, the new version of the method will be approved and launched in the next MWG meeting.

The next method to be validated is IFU MM13 Detection and Enumeration of Acid-tolerant Clostridia. The validation study will be performed by Adria Développement in 2022. The details for the participation in the interlaboratory validation study will be available soon for our members.

Another planned validation is IFU MM14 Detection of Heat Resistant Mould. A compilation of existing methods and recommendations for ascospore determination will be assessed and tailored to the needs of the industry .

Finally, the review of Detection and Enumeration of Yeast and Moulds will be under review in 2022 and there are still many more interesting projects on our work schedule.

Looking for the perfect enzyme for your fruit processing?

Find it **here**.

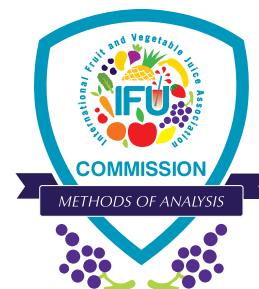


MAC activities update 2021



MIKKO HOFSSOMMER METHODS OF ANALYSIS CHAIR

The MAC has met three times on-line to discuss and decide on several issues concerning analytical methodology.



There was a discussion with CEN to adopt the ENV validation data for d13C measurement with a positive result for IFU.

Several methods were revised, such as IFU 82 for Determination of Nitrate, which ring-test was completed and data is in the validation process. The IFU 11, Determination of pH is in revision to be approved in the next weeks. Likewise, IFU 60: Determination of centrifugable pulp, will have a new picture in the cover and it is expected to be approved in the next weeks.

The IFU 8: Soluble solids is in revision by a specific sub working group that will tackle the corrections issue as well in the next months.

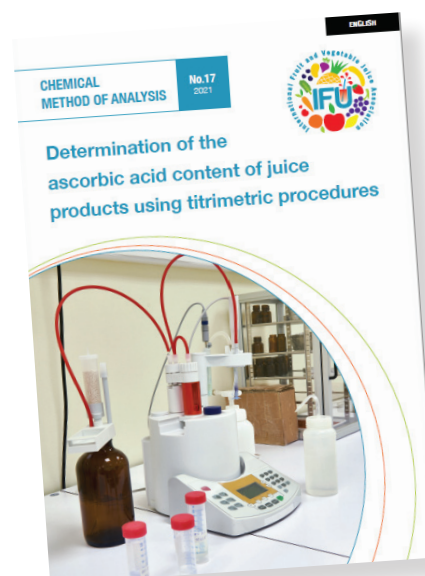
The Automatic vs manual enzymatic methods draft is ready, awaiting to include the operational ranges of the laboratories.

The IFU 17 Titrimetric validation data is under discussion, but the a7a Determination of Ascorbic acid by HPLC, will include a change in wavelength and will be approved in the next weeks, while the 17b Determination of Ascorbic acid by potentiometric with iodine has been approved. The 17c Determination of Ascorbic acid by enzymatic methods is under revision and it is expected to be approved in the next weeks.

Other methods under revision are IFU 3 Titratable acidity, IFU 75 Haze stability, which has the NFU definition pending, and the IFU 84, Stability test for clarified juices, which is being revised jointly with the Science and Technology Commission.

At the same time, recommendations are also under revision, such as Recommendation 5 (Determination of vitamin C), where validation and revisions are finished. The Recommendation 11 (Determination of cell content) will include the reference to a quick fibre method and will cross reference to Recommendation 17 (Determination of juice content in nectars and beverages). The last Recommendation under revision is number 18 (Determination of second extracts) that will include references to the latest publications and it's pending for approval. Further recommendations under revision are Recommendation 4 for oligosaccharides and Recommendation 5: Determination for Vitamin C, which is pending on the approval of the revised version of IFU 17.

The MAC is also exploring the possibilities to develop other methods to cover the needs of the juice industry, such as a method to measure the contaminants from filtering aids used in juices (bentonite), or a method to measure cyanide (HCN), which is under discussion if it should be free or total cyanide what it should be measured.



Interview with David Berryman, IFU Sustainability Working Group Chair



Hello David, you are the Chair of the recently created IFU Sustainability Working Group. Can you briefly introduce yourself?

I was the CEO of David Berryman Limited (DBL) until until December 2020, when we sold the company, although I remain heavily, perhaps even more, involved in the juice and food industry. I started my career as a research biologist in the pharmaceutical industry. I'm fortunate because my work has taken me on many varied projects around the world. DBL was founded some 25 years ago as a fruit juice supplier and distributor and in 1997 built the first juice blending and fruit compounding factory in England. The company is now the leading innovator of juice beverages in the United Kingdom, supplying sophisticated, cutting edge, exciting yet practical juice blends and soft drink bases to a worldwide market.

I'm passionate about sustainability, and I'm involved in a number of projects dealing with the handling of packaging (Plastic and glass bottles, cartons and pouches) which are used in the juice and beverage industry.

Why do you think sustainability is important for the juice industry?

There is a direct correlation between the changing climate (frequent strong hurricanes in the Caribbean area, draughts in Brasil and India, fires in Australia, for example) the Carbon Dioxide footprint resulting from our modern lifestyle. Such changes affect fruit growers, and thus the availability of raw material for our industry.

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On the other hand, there are new demands from consumers and policy makers on the industry to increase the sustainability of sourcing, energy and water use in production, packaging and transport, as well as reducing and taking responsibility for waste generation. The beverage industry is visibly the most responsible party for plastic pollution. The juice industry will only exist in the future if we take address these aspects now.

What are the objectives of the IFU Sustainability Working Group?

The main objectives of the Sustainability Working Group are to act as an expert group to IFU on the topic of sustainability in relation to fruit and vegetable juice supply chain, providing information and best practices. The development of the IFU sustainability network globally, with Associations, institutions, on-going projects, initiatives and other experts is very important too. The SWG wants to contribute to the UN Sustainable Development Goals and respective targets as well as to the work with the FAO (Food and Agriculture Organisation of the UN) on sustainability best practices.

How is the IFU Sustainability Working Group going to work?

The SWG integrates 23 experts from 17 countries. We will focus on three main focus points:

First, the agro-sustainable farm practices. We will promote the certified sustainable supply chain. In this area, the use of fertilizers, pesticides as well as the use of land and water are the main aspects to monitor, as well as biodiversity loss.

The second focus is the social accountability in the chain. We aim to warrant the income stability at all supply chain levels, to enhance the performance, harmonise efforts and share knowledge. For this focus point, IFU joined the Sustainable Juice Platform this year and is participating in the Steering Committee of the platform. We are very pleased to join forces with other ongoing activities, initiatives and organisation with a common goal of improving the sustainability of the sector.

Last but not least, we will focus on the reduction of the environmental impact in the processing and distribution phases, focusing on the use of energy and water, the use of raw material and waste reduction, the carbon and water footprint and the use of packaging.

What are the specific tasks of the SWG?

IFU is a global organisation and we want to provide a framework for actions leading to best practices and certification of sustainable juice supply chains. It is also very important to provide a harmonized framework for commitment, guidance, information and communication. In this sense, we are going to start mapping the ongoing activities at global level that include the sustainability initiatives and projects, so the IFU members will have a view of the status-quo of sustainability in the global juice industry. Afterwards, we can fix priorities and tackle specific challenges, by implementing new technologies and methodologies like for example, the circular economy.

**Thank you very much David for your answers.
We wish much success to the new SWG!**



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A “juicy” blockchain initiative for more transparency on sustainable juice



MINNA LYIJYNEN GROUP MANAGER SUSTAINABILITY, REFRESCO

We’d like to bring to the IFU members’ attention the JuicyChain, a novel solution to accelerate our industry’s sustainability efforts. JuicyChain is a blockchain-based traceability and transparency platform, designed to enable juice companies to tell the story of sustainable juice from grove to glass easily and efficiently.

Consumers increasingly want confirmation that the juice they are drinking is healthy and that it has been produced as responsibly as possible, respecting people and the environment. Consumers are also becoming increasingly aware of their responsibility, and they realize that their buying choices have the power to create change. As an industry, we need to rise to the occasion. We know that there is a transition taking place across juice supply chains and the JuicyChain provides solution for growers, processors, bottlers and brand owners to communicate the story of sustainable juice. This is done through a unique QR code on the packaging.

With JuicyChain, we give consumers proof that what they are buying is a good product. Consumers can see for themselves where the juice comes from and who have been involved in the production. And we provide proof of the quality and sustainability of the product to the consumer by linking external verification data to the product.

Open industry platform with low costs

JuicyChain is a platform by the juice industry for the juice industry. The initial phase of JuicyChain was co-funded by leading European juice producers Eckes-Granini and Refresco and the foundation IDH, the Sustainable Trade Initiative, based on their shared conviction that innovative technology can help sector players achieve the ambition of 100% sustainable juice because it enables all parties in the juice chain to tell the story of sustainable juice easily and efficiently. The platform is managed by the JuicyChain foundation and they are actively looking for new members to join the movement to shape and further develop the platform together.

Heikki Hirvonen, Procurement Director Eckes-Granini explains: “Our goal is to be able to offer our entire juice range from sustainable cultivation by 2030 at the latest. We therefore look for new innovative solutions to accelerate the availability of sustainable juice. Being able to tell the story of sustainable juice from grove to glass to consumers is an important part of this. “

The development and operation of sector-specific blockchain technology requires high financial contribution. However, the JuicyChain platform is open for all sector actors and therefore comes with very low entry barriers, both in terms of financial contribution and organizational efforts.

Vision	Technology	Solution
JuicyChain facilitates transition to 100% sustainable juice	JuicyChain is a scalable and, accessible platform based on blockchain technology	JuicyChain enables supply chain partners to tell the story of sustainable juice easily and efficiently at low costs

Blockchain technology drives trust and transparency

Blockchain has several benefits for the juice industry application. Firstly, your data is processed only by you on your own private node, and you decide what data to share with the network. Once shared, your data is protected by public blockchain security, and no one can alter or manipulate your data and its history. This enables trust and transparency.

Join the movement

The platform was launched at the beginning of 2021 and is open for interested parties to join. More than 40 juice companies have already shown an interest, several of them have since started onboarding to the platform. Coert Michielsen, CPO Refresco: “Together we can drive uptake of sustainable juice volumes across the chain, let’s share why juice is good for all!”

Interested to learn more? Please visit <https://juicychain.org> or request more information at hello@juicychain.org



The Sustainable Juice Platform



ATHA MANDIS CHAIR OF THE SUSTAINABLE JUICE PLATFORM

Background

The Sustainable Juice Platform, formerly the Juice CSR Platform, is a non-profit organisation founded in 2013 to advance sustainability matters for the juice sector. Initially co-funded by the European Commission for the first eighteen months, the Platform is today fully funded by its members. It is comprised of members representing eight sectoral categories of the juice supply chain, namely producers, processors and traders, bottlers, associated businesses and service providers, retailers, associated civil society organisations, experts and permanent advisory members. Its members represent over 90% of juice traded in Europe.

The Platform is not a separate legal entity. Its members have an Agreement with the AIJN.

Mission

Based on the UN Global Compact Food & Agriculture Business Principles (FABs), the mission of the Platform is to 'inspire, guide and support fruit juice actors to integrate corporate social responsibility in their business operations and core strategy.' Its primary functions are to:

- Facilitate and support sector-wide collaboration,
- Ensure quality and sector-wide participation, and
- Communicate and harmonise efforts.

Governance and Structure

Members are encouraged to inform and shape the Platform, and vote on and approve annual budgets and strategic decisions. No member has veto rights and all decisions are based on majority rule. Membership representatives from each of the eight sectoral categories, elected by members from each category, sit on the Steering Committee. Members vote for a Chair and Vice-Chair. Each term is two years in duration. The role of the Steering Committee is to executive the directives instructed by members, review

the performance of platform management service providers, evaluate the performance of Platform and its activities and approve new member applications.

Activities

Monies raised by members go towards platform management and running working groups and projects. The three key areas are:

- **Mitigation**, characterised by interventions in hot spots,
- **Initiation**, identification and collaboration on Projects and improvement opportunities, and
- **Education**, aimed at raising the level of awareness for and on behalf of members and their supply chains.

Recent work

Some of the recent activities of the Platform include:

- The first commissioning of a Living Wage report for the Brazilian orange sector,
- Undertaking a materiality risk assessment for ten priority supply chains which will shape future mitigation work for the Platform as well as providing its members with access to these materiality risk assessments for their business needs, and
- Co-funding a three-year FSA accelerator Polish apple project with a hundred producers as part of the commitment to 100% sustainably-sourced ingredients by 2030.

Recent investment into the Spotlight tool will allow members to share new and existing projects or ideas to facilitate collaboration on work. In the spirit of collaboration, the Platform is also working closely with the AIJN, IDH and IFU to develop a shared environmental roadmap for the sector.

Finally, it goes without saying that the Platform welcomes new members. We are particularly keen to have more representation from farming communities and the Global South. Our success lies in embracing pluralistic views and voices from all actors.

IFU Nutrition Working Group

The IFU Nutrition Working Group (MWG) was established on September 29th, with 29 members from 12 countries. The Chair is held by Diane Welland. She is director of nutrition communication for the Juice Products Association in the USA. She holds a BS in Nutrition and Communication issued by the Rutgers University and a MSc in Human Nutrition at the New York University.

An interview with Diane:

Hello Diane, you are the Chair of the recently created IFU Nutrition Working Group. Can you briefly introduce yourself?

I'm the Director of Nutrition Communications for Juice Products Association since 2012. I lead national and international health professional nutrition communications program and co-authored two scientific journal articles. I managed and published 15 scientific nutrition studies and execute public-private partnerships, direct nutrition regulatory and public policy activities. I advise on all nutrition-related issues for various food and beverage clients and coordinate and manage nutrition committees. I'm also lead and evaluate nutrition scientific research efforts, publish studies, present at scientific summits and translate scientific information into consumer-friendly language. Moreover, I oversee and direct strategic nutrition communications programs for food and beverage clients, translating nutrition research into layman's terms, communicating nutrition research to health professionals, dietitians, media, and public





policy officials; Advise and counsel clients on all related nutrition issues, direct nutrition public policy efforts and nutrition education initiatives, represent industry/clients at scientific and health professional conferences, excellent leadership qualities.

What are the objectives of the IFU Nutrition Working Group?

The main objectives of the Nutrition Working Group are to act as an expert group to IFU on the topic of nutrition science in relation to fruit and vegetable juice supply chain, providing information and texts on the subject. We want to develop of the IFU nutrition network globally, with Associations, institutions, and other experts. The NWG wants to monitor publications, research and health claims and to develop IFU health and nutrition positions and publications. Another aspect we will monitor is the nutrient profiling and the Front of Pack Nutrition labelling at Codex Alimentarius, in support of the Legislation Commission. We will also develop a nutrient database of fruit and vegetable juices.

How is the IFU Nutrition Working Group going to work?

The NWG integrates 29 experts from 12 countries, but more experts are still welcomed to join. Our first task has been to revise the work commissioned by IFU to professor Pedro Mena, from Parma University, to have a review on scientific publications on nutritional aspects of fruit juices to complement the work done by Dr. Carrie Ruxton for the Fruit Juice Science Centre on orange juice. The NWG is revising the work and the idea is to publish it in a scientific review next year. After that we will make it public and produce other documents for the divulgation to general public.

We also want to be active in various dissemination activities like for example, the Food Ingredients Europe fair, that was held in Frankfurt. On November 26th panel discussion on nutrition, Nutriscore and industrial strategies took place, where Claudia Mucciardi, Vice-Chair at ESSNA and Nicholas Hodac, Director General at UNESDA Soft Drinks Europe participated as panelists. Professor Mena, participated on behalf of IFU.

Group members also could listen to Khosro Nikpay, Managing Director of Zendegii, who presented the fibre-sugar ratios in fruits, juices and drinks, the effects of fibre intake in the decrease of mortality and the benefits of fibres in gut bacteria. The presentation was of great interest for the group, and many aspects for further research were identified. More information can be found in the book Fiber for Life. I think the fruit and vegetable juice industry has much more to explore on fibre.

Any further thoughts?

I encourage IFU experts to participate in this exciting working group.

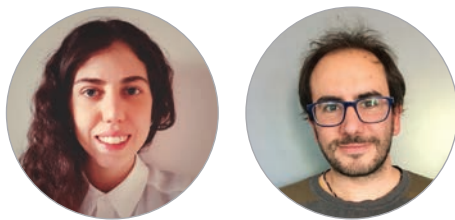
Thank you very much Diane for your answers. We wish much success to the new NWG and the first scientific publication!

What are the objectives of the IFU Nutrition WG?

Oversee and direct strategic nutrition communications programs for food and beverage clients, translating nutrition research into layman's terms, communicating nutrition research to health professionals, dietitians, media, and public policy officials; Advise and counsel clients on all related nutrition issues, direct nutrition public policy efforts and nutrition education initiatives, represent industry/clients at scientific and health professional conferences, excellent leadership qualities.

The group has met to revise the IFU nutrition paper that was prepared by the University of Parma. The document compiles the scientific publications on fruit juices, other than orange juice, and the effects on consumer's health. The work is aimed to be complementary to the publication done by Carrie Ruxton for the Fruit Juice Science Centre on orange juice.

Health effects of 100% fruit and vegetable juices: evidence from human intervention studies



IRENE ROSSI & DR. PEDRO MENA PARREÑO,
HUMAN NUTRITION UNIT, DEPARTMENT OF
FOOD AND DRUG, UNIVERSITY OF PARMA

The health effects of 100% fruit and vegetable juices (FVJs) are controversial to date, mainly due to their naturally occurring sugar content. However, considering 100% FVJs only for their sugar content is not a balanced approach, as they also provide micronutrients (vitamins and minerals) and secondary bioactive compounds (i.e., (poly) phenols, carotenoids, etc.), able to impact on human health. IFU has sponsored a review aiming to shed light on the potential impact of 100% FVJs on human health. The review assessed the effects of FVJs on a wide range of outcomes based on intervention studies conducted in humans and using 100% pure juice or purées. No limits in terms of

juice botanical species and health outcomes were considered, so a quite comprehensive overview of the health effects of specific 100% FVJs is provided. In addition, a complete picture of the contribution of each FVJ to any health outcome is provided considering the evidence available.

The effect of 100% FVJs has been mainly studied on cardiometabolic markers and anthropometric parameters, while some research also considered cognitive and exercise performance, bone metabolism, gut microbiota composition, and bacterial infections. Overall, no significant harmful effects were observed for any juice, while





moderate or major benefits were described for specific outcomes for most of the juices. Briefly, 100% FVJs do not affect body mass index and body composition. Considering cardiometabolic markers, pomegranate, cherry, plum, and beetroot juices are effective on BP lowering, whereas red and Concord grape, and beetroot juices may improve vascular function measured as flow-mediated dilation. Orange, plum, and tomato juices positively influence lipid profile and glucose homeostasis. Some 100% FVJs could also reduce inflammatory and oxidative stress markers, but results available for these markers are contrasting. Regarding less-explored outcomes, red/Concord grape, sweet/tart cherry, and orange juices seem promising in positively affecting cognitive decline. Furthermore, recent evidence suggests a positive modulation of gut microbiota composition by orange juice, whereas cranberry juice might moderate some bacterial infections. In terms of exercise performance, purple grape, pomegranate and beetroot juice could be beneficial in some physical activity contexts.

Further research is needed to draw more robust conclusions, as future studies should consider a more detailed phytochemical profile of the juices used, the inter-individual variability in the metabolism of the bioactive compounds present in juice, and the several confounding factors conditioning the physiological response at individual level. These three aspects are key to better understand the beneficial effects of 100% FVJs on human health. Efforts by the juice community should be devoted to this topics, as evidence-based nutrition is fully needed to support the development of dietary guidelines that may inform population dietary choices. A lack of evidence may also jeopardise industry competitiveness through the use of unsupported statements.

JUICE	Anthrometry	Body composition	Blood pressure	Vascular function	Inflammation	Lipid profile	Glucose homeostasis	Oxidative stress	Cognitive function	Exercise performance	Gut microbiota	Bone metabolism	UTI & bacterial inf.	Urinary
Orange (blonde)	3	3	4	4	3	4	4	4	4		5			
Orange (blood or red)			3	4	3	3	3	4						
ORANGE (blonde and red-blood)	3	3	4	4	3	4	4	4	4		5			
Grapefruit	3	3	3	4	3		3	3				4		
Mandarin	3	3	3	3	3		4	4						
Lemon							5							
Cloudy apple	3	4	3		3	3	3	3			3			3
Clear apple	3		3		3	3	3				3			
APPLE (cloudy, clear)	3	4	3		3	3	3	3			3			3
White grape	4		3			3	3		3					
Red/purple grape			4	5		3		4	5	5				
Concord grape	3		3	5	3	3	3	4	5					
GRAPE (white, red/purple, and Concord)	3		3	5	3	3	3	4	4	5				
Pomegranate			5	3	3	3	4	4	4	4				
Cranberry	3		3	4	3	3	3	4					4	
Black chokeberry (aronia)	3		4		3	4	3	3						
Wild blueberry	3		3	3	3	3	3	3						
Bayberry	3				4	3	3	4						
Bilberry	3				3	3		3						
Barberry	3		4			4	4							
Blackcurrant			3	4		3		4	4					
Açai and Juçara						4	3	4						
Noni			4				3							
Sweet cherry			4						5					
Tart cherry	3		5	3	4	3	3	4	5	3				3
CHERRY (sweet, tart)	3		5	3	4	3	3	4	5	3				3
Plum	3	3	5	4	3	4	4	3	3		3			
Tomato			3		4	4	4	4						
Carrot	3	3	3		3	3	3	3						
Beetroot			5	5										
Watermelon			3	3	4		3			4				
Sea buckthorn			3				3		4					
Passiflora setacea	3						4							
Cashew apple					3	3	4	4		4				





Introducing the elephant in the room



DR KHOSRO EZAZ-NIKPAY

When we talk about fruit and vegetables we often praise their obvious properties that typically come to us from popular culture. Iron in spinach, vitamin C in orange juice, or the phytonutrients and antioxidants that give fruit and vegetables their beautiful color. What is often mentioned in passing is that fruit and vegetables also contain fiber. This is akin to someone studying the gravitational pull of the planets and the moon on Earth, and mentioning in passing that the sun is a beautiful star, when in actual fact it accounts for over 99% of all gravitational forces on planet earth.

The same is likely true for fiber: It is the root-cause behind the vast health benefits of fruit and vegetables, but somehow we seem to pay more attention and money for drinks with super-fruits, antioxidants and vitamins. The average consumer barely takes notice of the fiber content.

There is a sizable body of research and meta analyses that show that for every additional gram of fiber, all-cause mortality is reduced by 1%. In other words, if we consume the amount of fiber we ought to consume (about 10g more than we consume on average), this

would translate into a 10% reduction in all-cause mortality. Increasing fiber consumption, therefore, will add many years of healthy and enjoyable life. To put this in context: there is no drug or other health intervention on earth that can do this on a mass scale. The covid-19 vaccination does not even come close in saving lives (maybe the Smallpox immunization).

All-cause -mortality is the most rigorous way to measure a health benefit because it measures all positive and negative effects. Given the powerful impact of fiber on all-cause mortality, the immediate

“When there’s an elephant in the room, you can’t pretend it isn’t there and just discuss the ants. ”

— Ellen Wittlinger

question is whether fiber also has a beneficial effect on specific diseases? The answer is a resounding yes! Fiber reduces the risks of the big killers such as cardiovascular disease, or certain cancers by double digit percentages, due to fiber's profound impact on our digestive, metabolic, hormonal, immune, and cardiovascular systems. This happens through its direct chemistry (e.g., absorption of sugar) and through its indirect chemistry, as a result of the metabolites formed by our gut bacteria when they ferment fiber (e.g., short chain fatty acids). The extensive evidence from observational studies is also supported by intervention studies for a range of disease markers, like obesity, blood lipids, LDL cholesterol, blood pressure, systemic inflammation, or IBS.

Much research has focused on looking for the beneficial impact of individual natural ingredients found in this or that super-fruit in part because of the hope that they could be patented. But remember that when people test one benefit, such as reduction of a disease marker, they often do not look at any side effects that may balance the positive. So something that is beneficial for cardiovascular health, may cause certain cancers, thus undoing some or all of its positive value. Fiber does not suffer this. Its benefits suffice to explain the lion share of the health-promoting value of fruit, vegetables, seeds,

“When there’s an elephant in the room introduce him.”

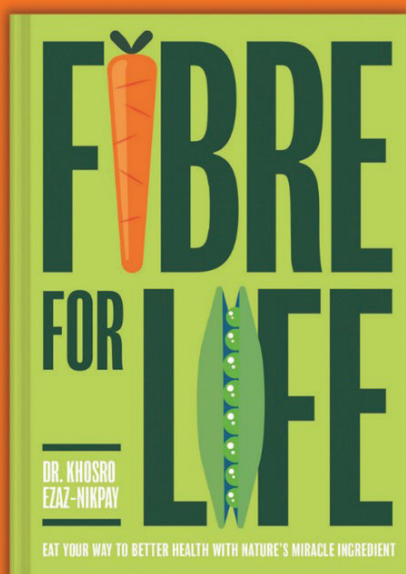
— Randy Pausch

grains, nuts, herbs, etc. (thus the all-cause-mortality evidence).

In summary, there is a very high likelihood that the main health-enhancing effect of whole fruit and vegetables is due to the presence of fiber. When we produce a juice we remove a substantial part of this fiber and it is an imperative for all producers to find ways of adding that life-giving fiber back into the consumer product. Fiber is not a mega-trend yet, but don't be caught off guard, because it certainly will be.

For the full set of scientific evidence, please see the book *Fiber for Life*, by Dr. Khosro Ezaz-Nikpay, published by Pavilion or supporting material and blog www.fiber4life.com

'Life changing yet simple to read.' Lina Nertby and Mia Clase, founders of Food Pharmacy



DR. KHOSRO EZAZ-NIKPAY

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PAVILION

Marketing Commission



MARGARITA MAIER, MARKETING CHAIR

What is IFU about? What is its brand? A brand above all is a relationship. The quality and relevance of that relationship must come from the brand's Purpose. It addresses the fundamental question, "Why do we matter to our members?"



Defining IFU's core brand essence was the first strategic process embarked by the Marketing Commission. Through a series of virtual workshops, the team defined what members can expect from our products and services in the coming years. We defined the reason and why we matter to them - this can be summed up best in our new positioning statement:

"IFU – We Share Knowledge Globally."

IFU's vision - to become a 'Centre of Knowledge' for the Fruit & Vegetable Juice industry worldwide, will be guided by our 4 brand pillars:

SCIENCE. STANDARDS. MARKETS. SUSTAINABILITY.

To continue to build relevant products around these 4 pillars, particularly in a new (pandemic driven) digital age, means continuing to modernize how we deliver content.

To kick-off the first of these new digital initiatives around

the MARKETS pillar, IFU will be launching JUICETIME. A digital interview platform where industry stakeholders share their knowledge of the juice market within their region - with a focus on the centrepiece - the end-consumer. How changing consumer behaviour, habits, purchasing patterns on fruit and vegetable juices are shaping the way they approach their own business practices and marketing strategies.

We have a very interesting interview guest list on the horizon and cannot wait to share all of this with you! Stay tuned as we publish the first of a series of interviews in the new year, as JUICETIME comes-in to your laptops on-demand - all housed on IFU's website.

We hope you find the series interesting, enlightening and even beneficial to your own businesses, as knowledge sharing becomes the core of what JUICETIME aims to deliver to our members worldwide.

Till then, stay well and we look forward to seeing you all in the New Year!

U.S. Revokes Tolerances for Chlorpyrifos on Food Commodities



PAT FAISON, TECHNICAL DIRECTOR JPA



The United States Environmental Protection Agency (EPA) has revoked all tolerances for chlorpyrifos on foods. The final rule can be accessed [here](#). In part, chlorpyrifos tolerances have been established for a variety of food commodities including apple, banana, citrus, cranberry, cherry, kiwifruit, pear, peach, plum and strawberry. Chlorpyrifos tolerances are codified in 40 Code of Federal Regulations (CFR) Part 180.342. The EPA has determined that the current U.S. tolerances for chlorpyrifos are not safe. The final rule is effective October 29, 2021. Chlorpyrifos tolerances for all commodities expire on February 28, 2022.

Commodities treated with the pesticide that are in the channels of trade following the tolerance revocations and containing residues of the pesticide will not be considered adulterated so long as it is shown to the satisfaction of the FDA that:

1. The residue is present as the result of an application or use of the pesticide at a time and in a manner that was lawful under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).
2. The residue does not exceed the level that was authorized at the time of the application or use to be present on the food under a tolerance or exemption from tolerance that was in effect at the time of the application. Evidence to show that food was lawfully treated may include records that verify the dates when the pesticide was applied to such food.

The revocation of chlorpyrifos tolerances applies to domestically-produced foods and foods imported to the U.S.





BSDA Update

GAVIN PARTINGTON, DIRECTOR GENERAL BSDA



The British Soft Drinks Association (BSDA) supports the introduction of a well-designed deposit return scheme (DRS) for plastic and can beverage containers up to three litres in size.

Over the last few years, we have been working behind the scenes to help bring this to life. The BSDA and its members have contributed the best part of £3m to help get Scotland's DRS off the ground. This funding has been used to set up the not-for-profit Circularity Scotland Limited, which was appointed by the Scottish Government as a Scheme Administrator in March 2021. In this role, Circularity Scotland will be responsible for the day-to-day management of Scotland's DRS.

The Scottish DRS had been due to launch in July 2022. This would have been one or possibly even two years before such a scheme launches in England, Wales and Northern Ireland. However, in November 2021, the Scottish Government announced that it was reviewing the go-live date for its DRS, saying that the scheme would now launch "as soon as is practically possible".

The BSDA had been campaigning to secure a more pragmatic start date for the Scottish DRS. Businesses and consumers have faced an unprecedented level of disruption over the past 18 months including the COVID-19 pandemic and other pressing issues such as a shortage of HGV drivers. In addition, there is still uncertainty as to whether DRS deposits will be subject to VAT rules. As things stand, the UK Government intends to apply VAT to the deposits collected in Scotland. There would be huge cost and a great deal of complexity in trying to administer this across the supply chain. Not only that, such a measure would effectively tax the incentive that's

there to encourage good consumer behaviour. So, as well as lobbying the Scottish Government to confirm a new go-live date, we are also pressing the UK Government to do the right thing on VAT.

We have touched on the challenges faced by our members as a result of COVID-19 and HGV driver shortages. Brexit has also presented challenges to businesses operating in the UK.

However, there are some potential benefits to be gained from the situation. In July 2021, the BSDA and the British Fruit Juice Association applied to the UK Government's limited-time-only tariff suspension scheme to try and remove the tariff applied to orange juice products.

During the UK's membership of the European Union, Industry had to submit applications to the bloc to request such tariff suspensions, which then had to be assessed by all member states. As a result of Brexit, the UK Government is now in a position to establish its own tariff regime.

Our hope is that a tariff suspension would help make 100% orange juice more accessible to consumers looking to achieve their health goals. As it stands, all age groups in the UK are falling significantly short on their recommended daily consumption of fruit and vegetables.

We expect to learn at some point in 2022 whether our application has been successful, and will inform IFU members accordingly.

AIJN's Sustainability Roadmap for 2030:



JUSTINE PRADELS, EUROPEAN POLICY RESEARCH INTERN, SUSTAINABILITY AIJN



AIJN has embarked on the creation of a Sustainability Roadmap for the fruit juice industry in Europe. As this policy areas has become top priority for the European Union, AIJN aims to provide its members as well as stakeholders with common priorities for the sector in Europe in order to become more sustainable.

As of now, phase one has been launched, which is the elaboration of a multi-level and cross-sectoral overview of existing and upcoming European legislation of interest to the Fruit Juice Industry. Specifically, this phase aims to collect and assess the impact of all EU legislation on sustainability regarding the Fruit Juice Industry and its actors along the value chain. This includes agricultural, environmental, labelling, chemical, waste and water legislations for example, as well as the upcoming discussions concerning the Farm to Fork Strategy and the Biodiversity Strategy.

The main objective of this exercise is to provide a comprehensive overview of EU legislation intended for AIJN members. This will be an easy to understand tool, which includes the impact European regulation can have on the industry.

The next phases of the Roadmap will consist in mapping the main priorities for the European Fruit Juice Industry in achieving greater sustainability across the value chain. It is envisaged that this could take the shape of a common position from AIJN, informing European institutions and stakeholders of the priorities set out by the industry and the actions it has elaborated to increase their activities in sustainability.

With the calls from European citizens for additional transparency and information regarding their food and drinks, and the Commission embarked on a transformation of the European food system to make it greener, the Fruit Juice Industry has already started its transition into an increasingly sustainable industry. This overview aims to give AIJN the tools to go beyond and include all actors within the value chain, and to potentially come up with a joint industry position to voice our achievements as a sector.

If the project sparked your curiosity and you would like to get involved, please reach out to either Wouter Lox via wouter.lox@aijn.eu or Marton Gellert via marton.gellert@aijn.eu regarding observer membership opportunities and access to our monthly newsletter.



UNIJUS - A digital activation program to share the realities of fruit juice directly with consumers – Round 2



CAROLE PRISSET, UNION NATIONALE INTERPROFESSIONNELLE DES JUS DE FRUITS



Healthy food, less sugar, less additives, home-made, ethical products, transparency... Those are the main consumer expectations nowadays when speaking of food industry. For sure, this sector is quite complicated to understand for the uninitiated. But messages given by media or health care professionals, new scientific information and public health recommendations do not help to reassure them.

In this increasingly difficult context regarding the food-processing industry, fruit Juice reputation has become our first concern.

That is why, after a first successful year of actions towards consumers, we, UNIJUS and members, decided in 2021 to carry on fighting against misconceptions and ignorance of all our stakeholders regarding our products and informing the general public directly.

APPROACH & ACTIONS: emphasize the level of proof and transparency thanks to embodiment!

For this new year of actions toward consumers, the objective was to capitalize on what has been done in 2020: key messages and principles of action, given their high quality and proof of success.

The choice was also to **go even further with the level of proof and transparency.**

It was thus decided to **mobilize the members to embody the fruit juice sector** and to pass our messages with more force and conviction as well as emotion.

We developed a new stronger program based on 3 pillars:

• **Creation of new and high-quality contents mobilizing UNIJUS members:**

– **16 short portraits of juice-industry professionals**

who share their motivations and even love for their daily missions – all answering the same 3 questions: Introduce yourself and your company? / What motivates you every morning to go to work? / What is your favourite juice?

– **4 videos illustrating 4 different themes** (“from orchard to glass”, “the role of R&D”, “quality and traceability” and “preservation of vitamin C and other nutrients”);

– **12 radio chronicles;**

– **12 new articles** on our consumer site: mesjusdefruits.fr;

• **Publications on UNIJUS social media platforms** (LinkedIn and Twitter), **with the launch in September of our Instagram page “fiers de nos jus de fruits”** (proud of our fruit juices), all publications relayed as much as possible by our members;

• **Partnership with influencers:** 4 Instagram-Moms invited to visit 4 different production sites and to interview a professional about one of our 4 themes listed above.

As in 2020, all our actions centred on **3 key messages:**

- Fruit juices are squeezed and packaged fruits for more convenience: nothing more!
- Fruit juices contain natural sugars, those from fruit, and this is also why they provide vitamins and nutrients from fruit.
- Breakfast is a chosen time to drink a glass of fruit juice - the right portion is 150mL, or a small glass.



Portrait Campaign and Instagram page

FIRST RESULTS & LEARNINGS: very promising figures

One and a half month before the end of our 2021 action plan, the quantitative and qualitative results of the campaign are very positive!

To date, the campaign has already brought us **more than 5.5 million contacts**, vs the 5 million planned, **who were exposed to our key messages**, via social media, radio or website. This is much more than in 2020 when we reached 2.5 million people.

All the contents and communication tools we developed allow us to be part of the conversation by disseminating objective and positive facts about our products.

Simultaneously, our influencers' partnerships were a real opportunity to share our messages with as many people as possible by capitalizing on their audience. The 4 mums-influencers we met, and who visited the production sites, were very curious to learn more about fruit juices and were completely convinced by the information they received. The meeting between them and professionals of the fruit juice sector was very profitable.

Another victory is the strong collective dynamic we created together with UNIJUS members, with a united

voice for the sector and category, based on collective messages.

In 2021, the success of the campaign was particularly based on the mobilization of the professionals. And they did!

PROSPECT FOR THE FUTURE: opportunities for 2022

Regarding the very positive results of the last two years of direct actions with the general public, we (UNIJUS and members) are convinced of the real interest in maintaining this type of program for 2022.

We certainly will continue to share information and develop fact checking to fight against misconceptions. Because it is one of the best ways to improve the fruit juice reputation!



Minimally Processed: an advantage of 100% orange juice.



TATIANA CAMPOS, INSTITUTIONAL RELATIONS DIRECTOR, CITRUS BR

The NOVA food classification system, developed by a Brazilian Professor from the University of São Paulo, groups foods according to the nature, extent, and purpose of the industrial processing they undergo. Based on this premise, food is divided into four groups: Group 1: unprocessed or minimally processed foods; Group 2: processed culinary ingredients; Group 3: processed foods and Group 4: ultra-processed foods. According to NOVA, people should give preference to Groups 1 and 2 and avoid group 4. But why should the fruit juice industry pay attention to this debate?

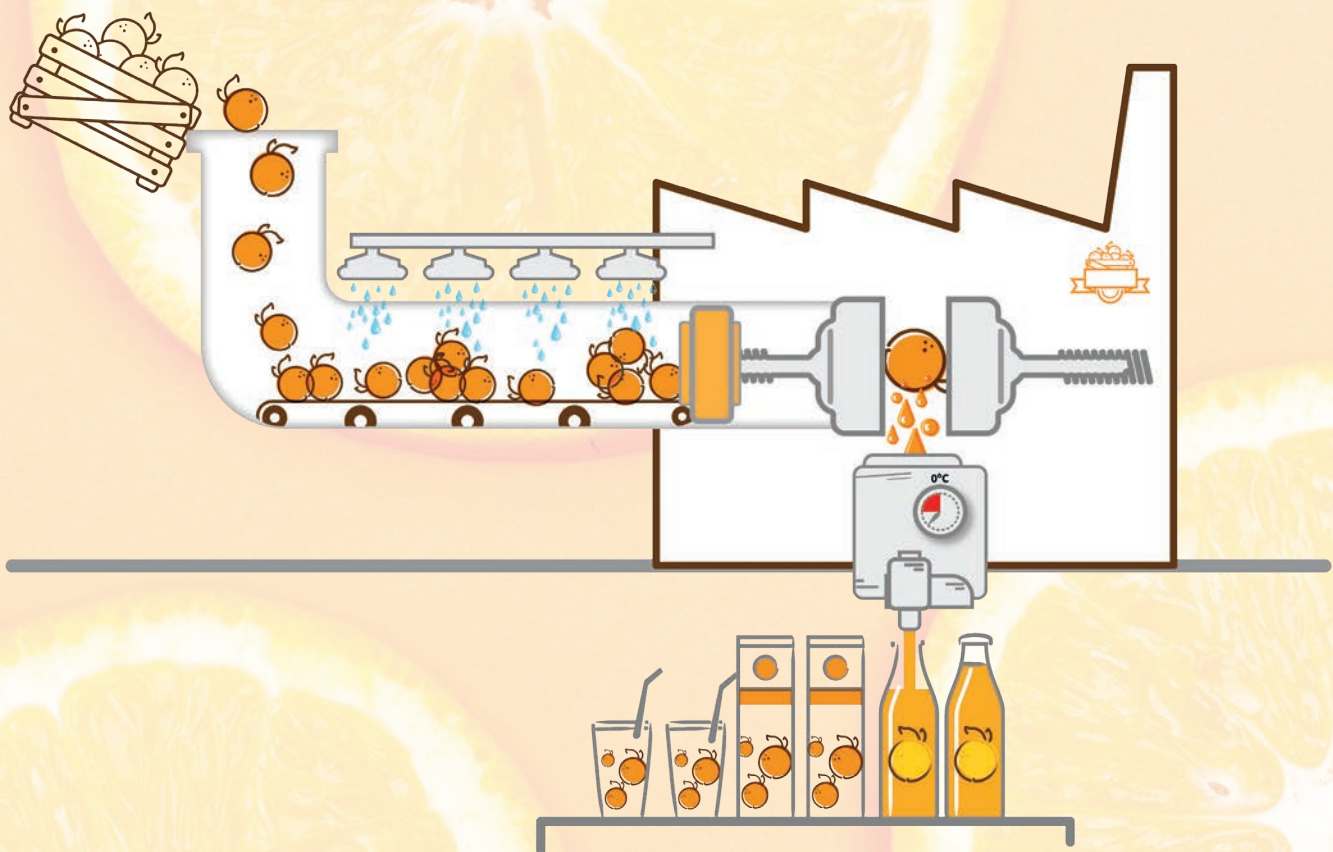
Firstly, because 100% fruit juice is frequently and wrongfully used as an example of a sugary beverage with lots of additives, suggesting it would be an ultra-processed instead of a minimally processed food. In the Fruit Juice Matters' Scientific Symposium of 2018, Dr. Anthony Fardet, a researcher from the Preventive and Holistic Diet & Nutrition at the French National Institute for Agricultural Research, presented evidence that 100% fruit juice, smoothies, and purees should be classified in Group 1 of NOVA. Furthermore – and this is my opinion - the concept of minimally processed foods perfectly summarizes two of the

main characteristics of fruits juices:

1. It is 100% made from the fruit it derives.
2. Does not contain added sugar.

Secondly, although initially born in Brazil, NOVA classification and thesis have spread and been used as a reference in several countries and international organizations, such as the United States, Canada, Norway, New Zealand, and FAO and WHO. The concept of avoiding ultra-processed food also recently appeared in the report of the European Parliament on the EU Farm to Fork Strategy, where it is stated that the UE should "...address the overconsumption of meat and ultra-processed products...".

The NOVA classification is still controversial, and not all specialists agree that the consumption of ultra-processed food is one of the leading causes of non-communicable diseases. Nevertheless, our industry should advocate that 100% fruit juices are minimally processed foods and should be treated by governmental policies as such.



Group 1: Unprocessed or minimally processed foods:

Unprocessed (or natural) foods are edible parts of plants (seeds, fruits, leaves, stems, roots) or animals (muscle, offal, eggs, milk), and also fungi, algae, and water, after separation from nature. Minimally processed foods are natural foods altered by a process that includes removing inedible or unwanted parts, drying, crushing, grinding, fractioning, filtering, refrigeration, chilling, freezing, placing in containers, and vacuum-packaging. These processes are designed to preserve natural foods, to make them suitable for storage, or to make them safe or edible or more pleasant to consume.

Group 2: Processed culinary ingredients

Processed culinary ingredients such as oils, butter, sugar, and salt, are substances derived from Group 1 foods or from nature by processes that include pressing, refining, grinding, milling and drying.

Group 3: Processed foods

Processed foods such as bottled vegetables, canned fish, fruits in syrup, cheeses, and freshly made bread are made essentially by adding salt, oil, sugar, and other substances from Groups 2 to Group 1 foods. Most processed foods have two or three ingredients and are recognizable as modified versions of Groups 1.

Group 4: Ultra-processed foods

Ultra-processed foods, such as soft drinks, sweet or savory packaged snacks, reconstituted meat products, and pre-prepared frozen dishes, are not modified foods but formulations made mostly or entirely from substances derived from foods and additives, with little if any intact Group 1 food.

¹ <https://www.cambridge.org/core/journals/public-health-nutrition/article/un-decade-of-nutrition-the-nova-food-classification-and-the-trouble-with-ultraprocessing/2A9776922A28F8F757BDA32C3266AC2A>



IPEK ISBITIREN, SECRETARY GENERAL MEYED



TURKISH FRUIT JUICE INDUSTRY ASSOCIATION

Fruit juice for a better life!

The fruit juice industry in Turkey had its beginnings around the 1960s almost at the same time as the world, following the steps of the US and EU.

As of the late 80s, with changes in national trade policy and improvement both in production and technological infrastructure, the industry began to be a rising star.

The main reason that makes Turkey strong and advantageous in the agriculture and horticulture sector is its strategic and geographical position. In addition to the rich biodiversity and suitable climatic conditions that enable the production of many types of fruits, Turkey's proximity to the Mediterranean, Europe-Siberian and Irano-Turanian regions, which are also 3 major biogeographies, provides strength in terms of commercial activity and as well.

In addition to these environmental and geographical privileges, the most important power of Turkey, that ensures its agricultural potential and differentiates it

from the other markets in the world as a global supplier, is "sustainability" in all terms of agricultural production, fruit & fruit juice quality and trusted business models

Turkey fulfills the responsibility to the world's next generations by investing in agriculture and agriculture-based industries by preserving the ecological balance with social, economic and environmental sustainability by increasing capabilities of local farmers, dedicated industry players and overall positive approach to agriculture at large.

For all these reasons, Turkey is one of the most preferred markets for many global industries and players in the world due to its production centers, facilities, sustainable product types, quality, highly experienced fruit juice quality processes and certificates, established standards and a customer-oriented business culture which realize by intellectual capital, investment in employees especially in food engineers to continuously improve their worldwide knowledge, agility and performance.

Today, Turkey maintains a business model that is centered on quality, confidence, long-term business

relationship, sustainability and price competition for juice producers around the world and comes to minds as one of the leading countries in a very wide geography from America to Japan, especially with its apple, orange, cherry, pomegranate, black carrot and also apricot, peach, strawberry, raspberry, blackberry, black mulberry, fig, grapefruit, lemon, mandarin, red grapes, pear, plum, pumpkin, quince and watermelon. The extensive variety of fruits and vegetables enables uninterrupted production in the factories throughout the whole year. The product portfolio includes not only concentrated products, concentrated purée/purée products but also organic products and ready to drink products - NFC, FC - Juice, Nectars and Still Drinks. According to ITC's data, the world fruit juice market size in 2020 has reached 13 billion USD. Turkey's share in it has been with 393.2 bio USD, 3% and Turkey ranked 10th among exporting countries.

The foundation of Turkish Fruit Juice Industry Association (MEYED) in 1993 by visionary academicians had an important impact on the development of the industry. Today fruit juice producers, supplier companies such as packaging and auxiliary material industries are gathered under the roof of MEYED. MEYED's members, distributed in 18 regions and 41 production sites all over Turkey, secure a sustainable agricultural development for a million of farmers and their families. In line with its foundational motto; to enable qualified raw material to reach production lines, the association made it its responsibility among others, to increase the number of contracted producers who deliver products according to worldwide standards. Taking the climate change into consideration, this is an even more important concept which needs constant training and investment in new technologies.

One of MEYED's strategic duties is to align Turkish directives, regulations regarding the industry with the ones of the EU and the ones of the roof associations. In the past MEYED accomplished an important mission in this regard by having the commentary note of the sorbitol value of the Turkish peach appended to the AIJN Code of Practice Reference Guideline for Peach Puree/ Juice. This in turn opened up the gates to exports.

Furthermore the "European Green Deal" is of great importance. Even more so, since Turkey signed the Paris Agreement on Climate Change in October

2021 and announced a net zero target by 2053.

Therefore MEYED is active in all task forces which are coordinated and carried out under the coordination of Turkish Ministry of Trade. This will certainly accelerate the developments in general, encompassing the whole country. MEYED tries to define a roadmap and to be up-to-date regarding the issue while following its stakeholders closely.

The other important issue is the Deposit Refund System (DRS), which will start to be implemented in Turkey as of January 1st, 2022. MEYED works in coordination with other beverage associations in order to put a system together, countrywide.

In order to achieve its mission and targets MEYED believes in the power of local and international partnerships, so it has been an active member of IFU since 1997 and it also joined AIJN in 2005. MEYED has worked in cooperation with SGF (Sure-Global-Fair) for many years.

MEYED's most important event is Juiceful Istanbul Summit (JIS) which was first organized in 2010 and has been taking place since then. It has become the traditional meeting place with its inspirational national and international speakers, for both national and international participants. SGF-IFU Eurasia Road Show 2019 was organized in conjunction with JIS 2019 with great success and full of lovely memories. For the past two years the summit has not taken place due to the pandemic where online communication was preferred.

Approaching the festive dates and the new year, against all odds, we wish you all, foremost healthy and happy times with your beloved ones!

Be safe and keep tight!



New Members



Save the dates

We can offer free tickets for IFU members for all listed fairs (except Sial in Paris and Anuga fair in Cologne; Food Ingredients in Paris to be confirmed) – send an email with the names of the visitors to [Maria](#) and she will make sure you'll get your ticket!

2022			
Date	Event	Location	Link
30.01.22-02.02.22	Prosweets Cologne	Cologne, Germany	www.prosweets.com
21.02.22-24.02.22	North American Raspberry & Blackberry Conference	Virtual and in-person in Maryland, USA	https://www.raspberryblackberry.com/
15.03.22-17.03.22	SGF IFU Roadshow	Virtual	https://ifu-fruitjuice.com
22.03.22	World Tomato Congress	Rotterdam, The Netherlands	https://www.globaltomatocongress.com
07.04.22	European Beverage Quality Conference	Barcelona, Spain	https://www.biomerieux-industry.com/node/2079
13.04.22-15.04.22	IID – India International Dairy Expo	Mumbai, India	www.iideindia.com
26.04.22-29.04.22	Anuga FoodTec	Cologne, Germany	www.anugafoodtec.com
20.06.2022	IFU Technical Workshop	Parma, Italy	https://ifu-fruitjuice.com
20.06.22-23.06.22	IFU University	Parma, Italy	https://ifu-fruitjuice.com/event/IFUUniversity
01.08.22	DRINKSUNION Anniversary	Moscow, Russia	.
12.10.22-13.10.22	AIJN IFU SGF Juice Summit	Antwerp, Belgium	https://www.juicesummit.org
15.10.22-19.10.22	Sial	Paris, France	https://www.sialparis.com
06.12.22-08.12.22	Food Ingredients Europe	Paris, France	https://www.figlobal.com/fieurope/en/home.html
2023			
Date	Event	Location	Link
May 2023	IFU Juice Conference	South Africa	https://ifu-fruitjuice.com
07.10.23-11.10.23	Anuga	Cologne, Germany	https://www.anuga.com
24.10.23-27.10.23	Cibus Tec	Parma, Italy	www.cibustec.it/en/
14.11.23-17.11.23	Andina Pack	Bogotá, Colombia	www.andinapack.com

Food Ingredients Europe

Fi Europe 2021 celebrated the 34th edition of the event and brought together Food & Beverage suppliers, R&D, production and marketing specialists to present the most diverse range of innovative ingredients and services.

Food Ingredients Europe 2021 was co-located with Health Ingredients Europe, and took place Online (November 22nd to December 2nd) and In-person (November 30th to December 2nd), in Frankfurt, Germany, bringing the best of both worlds and creating meaningful connections and support innovation in the F&B ingredients industry.

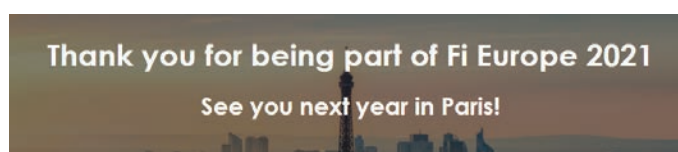


IFU was actively present in the event, being one of the more than 800 exhibitors, with a booth in Hall 3.0 within the Health Ingredients area and very close to the Innovation Hub.

On November 24th, IFU also participated in an On-line live panel discussion on “The role of reformulation in sustainability and health”, with Claudia Mucciardi Vice-Chair of ESSNA and Nicholas Hodac Director General of UNESDA Soft Drinks Europe. Professor Pedro Mena from University of Parma was representing IFU.

The IFU technical director, Aintzane Esturo, also participated at the expert sessions speaking on November 25th on “Circular Economy on the fruit and vegetable juice value chain” and in a Roundtable with other 5 professional celebrated on-site on December 2nd to discuss the challenges and issues the industry is facing in sourcing, buying and selling processes.

The next edition in 2022 will be also a hybrid version, from November 28th to December 8th On-line and In-person from December 6th to 8th at Paris Porte de Versailles, France.



Highlights of 2021 International Agricultural Trade Summit Theme: International Market Access and Sustainable Agriculture



**PATRICIA OBICHUKWU, MD / CEO,
BEST PRODUCE INTERNATIONAL (UK) LTD**

This inaugural International Agricultural Virtual Trade Summit that took place on 25th and 26th August 2021, was organised by Best Produce International UK Ltd and LEAP Consortium Ltd and supported by UK Department of International Trade (UKDIT) and AgroNigeria Ltd.

The aim of the summit was to facilitate trade relationships between UK/Europe and West Africa SME's; to address barriers to import and export; and to discuss the essential training and finance required to meet quality standards.

Key topics covered at the summit were:

- Quality assurance and standards for African and UK/Europe importers and exporters
- Fairtrade to alleviate poverty and food security through sustainable agriculture
- Empowering women and young people into leadership in the agro-sector
- Environmental sustainability in agriculture

Key Contributors

In all, there were 28 speakers and panel members with vast industry expertise that contributed to the Summit. These included government agencies, private sector standards' organisations, auditors, Not-for-profit organisations, large retailers' agent, a UK Senior Researcher, Juice Industry experts and SMEs from the UK and West Africa.

The key contributors came from: Best Produce Int. (UK) Ltd, LEAP Consortium, UK Department for International

Trade (UK DIT, Africa), Fairtrade, GLOBALG.A.P., International Featured Standards (IFS), Bank of Industry Nigeria, Rainforest Alliance, International Fruit and Vegetable Juice Association (IFU), QLBS, AgroNigeria, LEAF UK, De la Tierra Ltd, Ferguson Cardo, JMSF Agribusiness Nigeria, Impact Buying BV, John Bean Technologies, Zerya, Environmental Health Practitioner (Food Safety), Business Quality Services (BQS), Food and Agricultural Organisation (FAO) of United Nation (Nigeria / ECOWAS Rep), Shared-Interest West African, Get Unleashed, Agape Self-Sufficiency Cameroun and Bennie Agro Technologies Nigeria.

How The Key Objectives were Met Through this Summit (Activity)

To forge trade relationships between UK/Europe and West Africa SME's

- UKDIT / AgroNigeria / Best Produce International (UK) Ltd, Bank of Industry Nigeria and panel members all discussed the agriculture sector in terms of the positives and drawbacks within the industry. They identified the challenges and benefits of trade in Africa and their roles in building trade relationships between Nigeria / other West African countries and UK / Europe.

1. To expose UK and European Companies to Market Opportunities in West Africa:

- Best Produce International (UK) / UKDIT / Agro-Nigeria & Bank of Industry (Nigeria), highlighted the



great market opportunities that are in West Africa and Best Produce International, offered the UK / European counterparts, the strategic result oriented solution for effective collaboration and sustainability in working with West African Communities.

2. To raise the profile of African producers and exporters to the UK and European Market:

- Case study of a young vibrant Nigeria grass root business - Bennie Agro Technologies (Nig) Ltd, that is owned by young person who employed other young people to provide local technological machines / farm tools to small scale farmers was demonstrated.

3. To bring together key stakeholders, producers, exporters, importers, processors and policy makers to meet their UK and European counterparts.

- Food and Agricultural Organisation (FAO) of United Nation Official Rep. for Nigeria and ECOWAS; Ministry of Agriculture and Rural Development of Nigeria Technical Adviser / Agro-Nigeria; UK Department of International Trade (African Team), GLOBALG.A.P. Team; International Featured Standards (IFS); Fairtrade UK; Rainforest Alliance; QLBS; International Fruit and Vegetable Juice Association (IFU); BQS; UK Environmental Health Practitioner (Food Safety); Impact Buying BV; LEAP Consortium; Best Produce International (UK) ; JMSF Agribusiness Nigeria; Ferguson Cardo; Shared-Interest West Africa; LEAF UK; Get Unleashed; bank of Industry Nigeria; Bennie Agro- Technologies (Nigeria); Agape Self-Sufficiency Cameroun; De La Tierra Ltd; John Bean Technologies Corporation; Zerya and participants from different countries.
- The stakeholders/speakers gave presentations which were designed to educate, inspire and empower participants to forge ahead.

4. To discuss barriers to UK and European market access and penetration:

- Quality standards and poor agricultural practices were identified by many speakers as one of the key barriers to market access penetration for the emerging markets. Patricia Obichukwu –MD / CEO of Best Produce Int. (UK), Nevin Ruhle – IFS Director Business Development , Leen Klaassen – Gerente General Business Quality Services (BQS), Maria Schlafter – Marketing Director (IFU) International Fruit and Vegetable Juice Association and Bosola Joseph – Environmental Health Practitioner (food safety), all focused on the quality assurance and good agricultural.

5. To offer knowledge and technology transfer to SME's in West Africa in gaining access to international markets.

- Masterclass on International Market Access and Certification Process was delivered to farmers, processors and producers which helped them to identify poor agricultural practices, risk assessment and management processes. It offered a step by step approach to developing sustainable export market through GlobalG.A.P. and IFS standards and certification process.
- Masterclass on Sustainable fruit and vegetable juice market enabled the individuals to understand the opportunities and the requirement for juice production. This will enable them to expand their operations to producing juice and gain support from the IFU (International Fruit and Vegetable Juice Association)
- Masterclass on Sustainable Funding for West African Producers informed participants of the finance and funding options available to farmers and producers. This will enable them to assess whether they qualify for various types of finance.



6. To promote West Africa as an emerging market for agricultural produce.

- UKDIT in partnership with Best Produce International UK Ltd and LEAP Consortium provided an enabling environment for West African producers and exporters to access professional expertise, information and knowledge, which will position them in the international market.
- UKDIT exposed UK businesses to opportunities in Nigeria's Agricultural industry, to support UK businesses that wanted to import goods from West Africa
- AgroNigeria also highlighted the key programmes they are running in collaboration with the UK DIT and Nigerian Government and banks to support producers and exporters with accessing possible investors from the UK.
- FAO provided the support to SME's by outlining the key initiatives that they are involved in in Nigeria and other West African Countries.
- The Bank of Industry, Nigeria outlined the key financial support they offer to businesses to enable them to access the essential finance they need to grow their agri-business.
- Best Produce and LEAP Consortium along with all other experts from UK and Europe offered knowledge and technology transfer to SME's from emerging markets that are necessary for positioning in international markets.

At the end the Summit, this Communiqué that represents a set of values that all signatories share and believe will create equality and ethical practices in Agriculture, was signed by key stakeholders. This document demonstrates a collective approach to Best Practice and Education as a way to improve the Agriculture sector. By signing this document, all parties confirmed that they share the values set out below.

- **Education and Employment:** to Reduce Poverty in Nigeria/West Africa through Agriculture
- **Quality Assurance:** to Increasing Good Agricultural Practice
- **Creating Fair Pay:** through Fair trading Practices
- **Equality for Women:** by Inspiring Women into Leadership in Agriculture
- **Careers for Young People:** Making Agriculture Attractive to Young People, and Inspiring Leadership
- **Producing Healthy Food:** for a Healthy Life-Style and wellbeing
- **Environmental Sustainability:** Promoting Nature and Environment in Agriculture
- **Supporting the Sustainable Future of Agriculture** (Post-Covid-19)
- **Building Effective Partnerships:** to create a better more inclusive world
- **Transforming lives:** through food security and sustainable development

Mrs Patricia Obichukwu, MD / CEO of Best Produce International UK Ltd is calling on all stakeholders, EU / UK Retailers, Philanthropists, International Donor Agencies and Individuals to support us:

1. To promote the above shared values and support up to 200,000 SMEs / Women and Youths in leadership in Agriculture and in addressing food securing within the next 2 years.
2. To provide cost effective practical solutions for capacity building of SMEs from Nigeria and other West Africa countries in attaining international quality standards.
3. To support Best Produce International UK Ltd in advocating and empowering up-to 1 million women and youth into leadership positions in agric-sector within 10 years.

[Click here to see a video with highlights of the International Agricultural Virtual Trade Summit 2021](#)
[Click here to see the full report of the Summit \(30 pages flipbook\)](#)

IFU Technical Webinars go Fruit Juice Focus

The IFU Technical Webinars 2021 can not only be seen “on demand” – some presentations also became articles in Fruit Juice Focus!

We as IFU, our speakers and our sponsors of the webinars reach with this possibility an even bigger audience – and participants of the webinars can re-read what they have seen/heard at the event and get updates on what was presented a couple of months ago. You can find the full articles on <http://www.fruitjuicefocus.com> in the July/August, September/October and November/December edition.



FEATURE

Mycotoxins in fruits: *Alternaria* toxins in tomato products

Isabelth Vargas and Diana Mateo, Department of Food Chemistry and Toxicology University of Vienna, discuss the toxic mycotoxins for IFU.

Consumption with other natural toxins cannot be completely avoided. However, it is important to know the health risks of these toxins.

Abstracts

Mycoflora and mycotoxins in fruits and vegetables are a major concern for consumers and regulators. The presence of mycotoxins in food is a serious public health problem because of their potential toxicity. The most common mycotoxins found in fruits and vegetables are aflatoxins, ochratoxin A, and fumonigins. These mycotoxins are produced by fungi that grow on crops and can be transferred to the food chain. The presence of mycotoxins in food can cause a variety of health problems, including liver damage, kidney damage, and cancer. The IFU has been working to reduce the presence of mycotoxins in food through various initiatives, including the development of new detection methods and the implementation of good agricultural practices.

FEATURE

Can both fruits and juices influence cardiovascular risk?

The International Fruit and Vegetable Juice Association held a series of Technical Webinars with Carlos Racion speaking at their health and nutrition webinar.

Research shows that both fruits and juices can help reduce the risk of cardiovascular disease. This is because they contain antioxidants, fiber, and other nutrients that are beneficial to heart health. However, it is important to choose the right fruits and juices. For example, whole fruits are generally better than fruit juices because they contain fiber, which is important for heart health. Additionally, it is important to avoid fruit juices that are high in added sugars, as these can increase the risk of cardiovascular disease.

FEATURE

Disrupting the packaging industry: ReZorce Circular Packaging

With the climate crisis at the forefront of global conversations, it's time for food and beverage packaging to become circular, reusable, and responsible.

ReZorce is a circular packaging solution that is designed to be reusable, recyclable, and responsible. It is made from 100% recycled materials and is designed to be used for multiple cycles. This helps to reduce the amount of waste that is sent to landfills and the amount of resources that are used to produce packaging. ReZorce is a sustainable packaging solution that is perfect for food and beverage companies that want to reduce their environmental impact.

FEATURE

SGF and the Food Fraud Vulnerability Assessment

Since food has been produced and sold, there has always been adulteration and fraud. A valuable tool to support our industry in food fraud mitigation strategies is the SGF's Food Fraud Vulnerability Assessment (FFVA).

The FFVA is a tool that helps food companies identify and assess their vulnerability to food fraud. It is based on the SGF's Food Fraud Vulnerability Assessment (FFVA) and is designed to be used by food companies to identify and assess their vulnerability to food fraud. The FFVA is a valuable tool that can help food companies reduce their risk of food fraud and protect their reputation.

ASSOCIATIONS

Promoting Juice in a post-pandemic world

Juice Products Association (JPA) is a US-based trade association whose membership consists of major processors, growers, packers, brokers and distributors of a wide variety of 100% fruit and vegetable juices, juice beverages and juice drinks. Diane Weiland MS, PhD Director of Nutrition Communications at Juice Products Association reports.

The JPA encourages both consumers and health professionals to think beyond the glass and see juice in many different contexts and applications. This includes using juice in smoothies, salads, and other dishes. The JPA also promotes the health benefits of juice, such as its ability to provide essential vitamins and minerals. By promoting juice in a post-pandemic world, the JPA is helping to ensure that consumers have access to healthy and nutritious options.

ASSOCIATIONS

The importance of the IFU RHC program as evidence-based scientific research and recommendations

This research summarizes and supports the RHC and consumer communication programs and other public policy initiatives.

The IFU RHC program is a valuable resource for the juice industry. It provides evidence-based scientific research and recommendations that can help the industry make better decisions. The RHC program also supports the IFU's mission to promote the health and nutrition benefits of fruit and vegetable juice. By providing this research and recommendations, the IFU RHC program is helping to ensure that the juice industry is making the most of its resources and providing the best possible products to consumers.

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IFU Technical Webinars
 May 25, May 27, June 1 and June 2, 2021
 3 pm CET / 2 pm UK time
 Learn with us online!



In conjunction with AIJN and SGF:
 For the Juice Industry. From the Industry Experts.



1º Feria Internacional
Innovación Agropecuaria
El Campo Innova



22 al 25
de septiembre

1º Feria Internacional Innovación Agropecuaria – First International Agricultural Innovation Fair

The International Agricultural Innovation Fair, organised by the Colombian Ministry of Agriculture and Rural Development was held on-line between the 22nd and 25th of September. Leading agricultural innovation companies, universities and research centres participated in five interconnected pavilions focused in the UN SDGs (3 Good health and wellbeing, 8 Decent work and economic growth, 9 Industry, innovation and infrastructures , 13 Climate actions, 17 Partnership for the Goals). The knowledge on science, innovation and technology were the pillars to share experiences of high impact improving the quality, rentability and competitiveness in the agricultural sector. IFU presented at the block “innovation for the wellbeing: feeding the world”

IFU contribution:

Presentation • Round table talk • Virtual booth (268 visits)

Total visitors: 24.152

Communication Strategies from Aug. 27 – Sept. 26, 2021

	Reach	of which men	of which women
Facebook & Instagram	1.116.379	60,1%	39,1%
Twitter	266.289	27%	33%
Youtube	159.046	49%	51%
WhatsApp	+3000	-	-
E-mail	+60.000	-	-



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JUICE PROCESSING SUMMER SCHOOL

Parma, 20/06/2022 – 23/06/2022



SCHOOL OF ADVANCED
STUDIES ON
FOOD AND NUTRITION

PROGRAM IFU University Juice Processing Summer School

	TIME	ACTIVITY	SESSION	TOPICS	CONTENT	LOCATION	
MON 20 JUN	Morning Afternoon From 17:00	Registrations Open			Travel		
	From 19:00				Welcome Cocktail		Registrations Open (to provide students with course Handbook and Gadgets)
TUE 21 JUN – DAY 1	09:00 - 11:00	Theoretical lesson: 3 Topics	Raw materials processing	Raw materials processing	– Clear & cloudy juice extraction – Clear juice clarification	Parma University Campus Classrooms (Santa Elisabetta Center)	
				Citrus extraction	– Orange extraction		
				Raw materials extraction	– Mediterranean and Tropical fruit extraction		
	11:00 - 11:30	<i>Coffee break</i>					
	11:30 - 13:00	Theoretical lesson: 2 Topics	Thermal juice stabilisation	Effects on microorganisms, enzymes and nutritional compounds	– D, z and F ₀ parameters – Ea and k parameters – Inactivation kinetics	Parma University Campus Classrooms (Santa Elisabetta Center)	
				Thermal fluid dynamics overview	– Conventional thermal – Ohmic heating		
13:00 - 14:00	<i>Lunch</i>						
14:00 - 14:30	Adjourn to laboratory session	Subdivision into 3 groups (GROUP A, B and C) of 16/17 people, who will go to the various labs and companies in rotation.					
14:30 - 17:30	Hands-on activities		Lab and pilot line Activity (Group A)	Chemistry	– Method of Analysis	SSICA Laboratories	
			Pilot and industrial lines activity (Group B)	Thermal stabilisation	– UH-MIX pilot-scale line	CFT	
				Non-Thermal processing	– PEF	Tecnopolo (Parma University Campus) HPP Italia	
			Lab and pilot line activity (Group C)	Microbiology	– Yeasts and Moulds (HRM), ACB (alicyclobacillus), TVC (total viable count)	– HPP	UNIPR Laboratories (Parma University Campus)
			Thermal stabilisation	– Ohmic heating pilot line	JBTC		
WED 22 JUN – DAY 2	09:00 - 10:30	Theoretical lesson: 2 Topics	Non-thermal juice stabilisation	HPP	Technology action mechanism & equipment description + mathematical models for inactivation kinetics (pressure resistance)	Parma University Campus Classrooms (Santa Elisabetta Center)	
				PEF	Technology action mechanism & equipment description + mathematical models for inactivation kinetics (electroresistance)		
	10:30 - 11:00	<i>Coffee break</i>					
11:00 - 13:00	Theoretical lesson: 2 Topics	Filling and packaging: technologies and materials	Filling technologies	– Aseptic – Ultra clean – Hot fill	Parma University Campus Classrooms (Santa Elisabetta Center)		
			Packaging materials: features, sustainability and influence on shelf-life	– Glass – Cartons – Cans – Pouches – Plastic			

PROGRAM IFU University Juice Processing Summer School

	TIME	ACTIVITY	SESSION	TOPICS	CONTENT	LOCATION
WED 22 JUN – DAY 2	13:00 - 14:00	Lunch				
	14:00 - 14:30	Adjourn to laboratory session	Subdivision into 3 groups (GROUP A, B and C) of 16/17 people, who will go to the various labs and companies in rotation.			
	14:30 - 17:30	Hands-on activities	Lab and pilot line activity (Group B)	Chemistry	– Method of Analysis	SSICA Laboratories
				Thermal stabilisation	– UH-MIX pilot-scale line	CFT
			Pilot and industrial lines activity (Group C)	Non-Thermal processing	– PEF – HPP	Tecnopolo (Parma University Campus) HPP Italia
Lab and pilot line activity (Group A)	Microbiology	– Yeasts and Moulds (HRM), ACB (alicyclobacillus), TVC (total viable count)	UNIPR Laboratories (Parma University Campus)			
	Thermal stabilisation	– Ohmic heating pilot line	JBTC			
20:30	Pizza Dinner				La Duchessa restaurant	
THU 23 JUN – DAY 3	09:00 - 11:00	Theoretical lesson: 3 Topics	Methods of analysis and various legislations pre-screening (linked to juice processing)	Juice Chemistry	– Enzymatic browning – Maillard reaction – Oxidation – Ascorbic Acid Degradation	Parma University Campus Classrooms (Santa Elisabetta Center)
				Method of Analysis	– Reference methods – Precision & trueness – QA of analysis	
				Authenticity	– Industry codes (AIJN) – Types of adulteration – Testing scope – Control systems	
				Legislation	–Pre-screening of allowed additives and processing aids in various legislation (CODEX, FDA, etc)	
	11:00 - 11:30	Coffee break				
11:30 - 13:00	Theoretical lesson: 2 Topics	Nutritional aspects linked to juice processing	Nutritional quality of juices		Parma University Campus Classrooms (Santa Elisabetta Center)	
			Nutrients preservation in juices processing			
13:00 - 14:00	Lunch					
14:00 - 14:30	Adjourn to laboratory session	Subdivision into 3 groups (GROUP A, B and C) of 16/17 people, who will go to the various labs and companies in rotation.				
14:30 - 17:30	Hands-on activities	Lab and pilot line activity (Group C)	Chemistry	– Method of Analysis	SSICA Laboratories	
			Thermal stabilisation	– UH-MIX pilot-scale line	CFT	
		Pilot and industrial lines activity (Group A)	Non-Thermal processing	– PEF – HPP	Tecnopolo (Parma University Campus) HPP Italia	
		Lab and pilot line activity (Group B)	Microbiology	– Yeasts and Moulds (HRM), ACB (alicyclobacillus), TVC (total viable count)	UNIPR Laboratories (Parma University Campus)	
Thermal stabilisation	– Ohmic heating pilot line		JBTC			
From 19:00	Goodbye Dinner				Amedeo Bocchi and Renato Vernizzi Museum	



The University of Parma

The University of Parma (Italy) is one of the oldest universities in the world, founded in the 10th century. The size of the University of Parma (32,000 students) and the Parma lifestyle attract a large number of students from all over Italy.

In Parma, scientific, technological, economic and cultural skills and know-how all come together to create food. The School of Advanced Studies on Food and Nutrition of the University of Parma gathers these local competences and adds proactive links with international organisations and universities. It is a dynamic and efficient institution that boasts close ties with all areas of research into food: product and process innovation, safety and quality, human nutrition, education and communication, sustainability, socio-economic aspects, legislation, etc.

The School offers high-level, multidisciplinary training opportunities to develop professional expertise able to tackle emerging issues and problems of the food sector.

Course fees:

€1,099 for IFU members, €1,599 for non-members

Hotel details:

We have reserved rooms at the Starhotels Du Parc Parma.

Hotel rates and booking form will be available shortly

International Fruit & Vegetable Juice Association – IFU

Represents the Global Fruit Industry

Over 200 members in 77 countries

Members

- Associations
- Corporate
- Friends
- University

Registered NGO at Codex Alimentarius

Events

- Juice Summit (with AIJN & SGF)
- Juice Conference
- Technical Workshop (with SGF)
- Roadshows (with SGF)

Commissions

- Legislation
- Science & Technology
- Methods of Analysis
- Marketing
- Sustainability
- Nutrition

Publications

- Methods of Analysis (Chemical & Micro)
- Recommendations
- Juice & nutrition news
- e-learning videos



Pilot plant facilities provided by:



Contact Us:

email: john@ifu-fruitjuice.com

Visit the IFU University page on the IFU website to book your place on the course <https://ifu-fruitjuice.com/event/IFUUniversity>



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SGF | IFU
ROAD SHOW WEBINARS
MARCH 15 | EMEA
MARCH 16 | ASIA
MARCH 17 | AMERICAS



SGF-IFU ROAD SHOW WEBINARS

Simultaneous Interpretation to French on March 15 (EMEA) and to Spanish on March 17 (AMERICAS)!

Words of Welcome	Mr. Mikko Hofsommer, Methods of Analysis Commission Chair, IFU
What is the IFU and what are we up to these days?	Ms. Maria Schläffer, Marketing Director, IFU
SGF update – Pesticide control in the fruit juice industry	Mrs. Sophie Moitrier, Technical Manager, SGF
AIJN Code of Practice: The International Reference Standard for Quality & Authenticity of Fruit Juices	Ms. Lucrecia Matteri, Technical & Regulatory Affairs Consultant, AIJN
Citrus Taxonomy	Dr. David Hammond, Legislation Commission Chair, IFU
Beyond AIJN ranges: other useful analytical information to test authenticity – an update	Dr. Eric Jamin, Authenticity Business Unit Manager, Eurofins
How Food Processing Technology helps in Sustainability	Dr. José Lorente, Technology Assistance Diversified Food & Health, John Bean Technologies
Additional spot for presentation	Send an e-mail to maria@ifu-fruitjuice.com with proposals

The webinar is free of charge.
Click to register:



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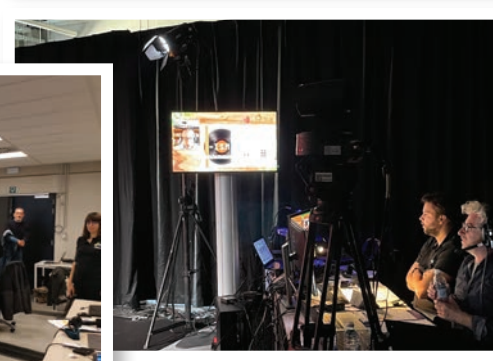
Juice Summit TV Behind the Scenes

Have you enjoyed the Juice Summit TV in October?
Yes? So did we!

Have you wondered if and how you can see the recordings of the presentations (if you are a registered participant of the event)? Yes? So did we – and found out it is actually really easy! Just click on the “magical link” which you have received in the beginning of October. You can’t find the email? Search for “Juice Summit TV virtual event - Magical Link”, this is the title of the e-mail. You need your e-mail-address and either you remember your chosen password, or you can click “send me the link (again) – then you will be able to watch the “recordings” of the event.

Have you wondered how it looked behind the scenes? Yes? So did we – and asked IFU Executive Director John Collins to share with us some of his photos from the live recordings in Brussels!

Would you like to read a full report on this years’ Juice Summit TV? You can find it on page 34 and 35 in the **Nov/Dec Fruit Juice Focus**, written by AIJN’s Public Affairs & Communications Junior Manager Marton Gellert.





IFU

International Fruit and Vegetable Juice Association

www.ifu-fruitjuice.com

23 Boulevard des Capucines

75002 Paris, France

Landline +44 1934 627844

Mobile +44 7850 910989

john@ifu-fruitjuice.com