EXECUTIVE SUMMARY

ALYSSON PAOLINELLI FOR THE 2021 NOBEL PEACE PRIZE

AgriTrop

A tribute to Alysson Paolinelli

IICA

Embrapa

REDE ALYSSON PAOLINELLI
NOBEL DA PAZ 2021

International Tropical Agriculture Week

AgriTrop

A tribute to Alysson Paolinelli

Alianza

agbiz agricultural business chamber
the way to prosperity

CATIE
Solutions for environment and development
Soluciones para el ambiente y desarrollo

Bioversity International

CIAT
Centro Internacional de Agricultura Tropical

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AGRICULTURAL RESEARCH FOR DEVELOPMENT

Organização das Nações Unidas para a Alimentação e a Agricultura

GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK

ESALQ USP

FONTAGRO

Food Tech HUB Br
alimentos para vida

UNIVERSITY OF KABIANGA

IICA

Embrapa

MINISTÉRIO DA AGRICULTURA, PECUÁRIA E ABASTECIMENTO

PÁTRIA AMADA BRASIL
GOVERNO FEDERAL

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ABOUT AGRITROP 2021

During the International Week of Tropical Agriculture - AgriTrop, more than 20 experts from various countries met virtually, between March 22 and 26 from 11 am to 2 pm, to dialogue about the importance of Tropical Agriculture for the development of countries and their contribution to Agri-Food Systems. The event, organized by Embrapa and the Inter-American Institute for Cooperation on Agriculture (IICA) and supported by several partners, had as its main objective to share the experiences of scientists, environmentalists and entrepreneurs in the sustainable use of technologies to adapt agricultural and animal cultures to the climatic and environmental conditions of the tropical belt. Based on this exchange of knowledge, we aim to stimulate synergies and partnerships, as well as subsidies for the coordination of the region at the unprecedented United Nations Food Systems Summit, scheduled for September, in New York.

One of the highlights of the event was precisely the success of the Brazilian model, which managed to transform the country from a food importer in the 1970s into one of the most important players in the global agribusiness. Thanks to the tropicalization of agricultural crops and animals, in 2021 the Brazilian agribusiness reached a Gross Production Value of almost R $ 900 billion, representing about 21% of the national GDP. It is also responsible for 48% of Brazilian exports, with emphasis on coffee, sugar, orange, ethanol, beef, chicken and soy, and for the generation of approximately 19 million jobs in Brazil. Not to mention that it feeds more than 800 million people in the world.

The Week also aimed to consolidate the offer of institutional and technological innovations currently available in relation to sustainable tropical agriculture in the hemisphere and to promote the exchange of ideas in order to constitute a permanent dialogue, which encompasses multiple national, regional and international actors, both public and private sector, as well as agencies and reference bodies in international cooperation.

ABOUT AGRITROP 2021

The International Week of Tropical Agriculture made up of 1,340 registrations. Over the five days of transmissions through the YouTube channels of IICA and Embrapa, 10,656 views were recorded, with a daily average of 2,132, and a peak of 540 people connected simultaneously.
28 press articles were identified, with emphasis on the interviews of Manuel Otero and Celso Moretti for the channel AgroMais, at the opening and closing of the event, mention in the column Vai e Vem das Commodities, by Mauro Zafallon (Folha de S.Paulo), an article on UOL Portal, EFE news agency and local newspapers in Brasília and the States of Mato Grosso, Tocantins, Minas Gerais and Pará.

During the implementation of the Communication Plan, two meetings were held between communication professionals from IICA and Embrapa with communicators from supporting institutions, in which ESALQ, Alysson Paolinelli Nobel Committee, CATIE, FONTAGRO and CIAT participated.

THE GLOBAL GOALS

A TRIBUTE TO ALYSSON PAOLINELLI

Among the highlights of the International Week of Tropical Agriculture is the tribute to one of the main mentors and enthusiasts of this model of agriculture in the country, the ex-minister of Agriculture, Alysson Paolinelli, who competes this year for the Nobel Peace Prize

The trajectory of Paolinelli is infused with Brazilian agriculture itself, as he was one of the first to believe in the potential of the *Cerrado* region for agricultural production. Since the 1960s, this agronomist, graduated from the Federal University of Lavras, saw in science the only way to improve food safety in Brazil.

He was one of those responsible for the consolidation and modernization of Embrapa, when he was the Minister of Agriculture between the years 1974 and 1979. Visionary, he was always an encourager of research, science and technology and, therefore, implemented a scholarship program for Brazilian students in several agricultural research centers around the world. In 2006, he won the World Food Prize, equivalent to the Nobel Prize of food, granted to people who have helped the population considerably to improve the quality, quantity or availability of food in the world.

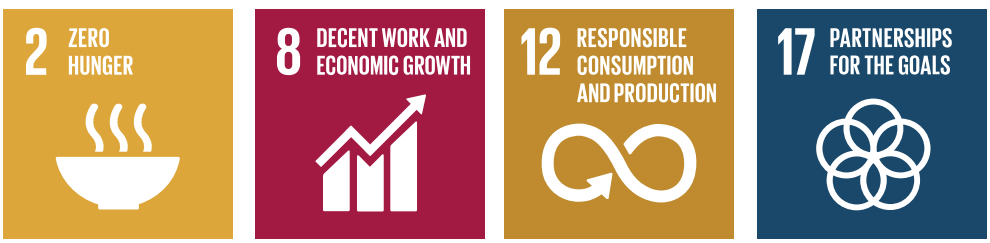
TOWARDS THE FOOD SYSTEMS SUMMIT

What is the Food Systems Summit?

In 2021, the UN Secretary-General, António Guterres, will convene a Food Systems Summit as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030. The Summit will launch bold new actions to generate progress in all 17 SDGs, each of which depends, to a certain extent, on healthier, more sustainable and equitable food systems.
The Summit will awaken the world to the fact that we must all work together to transform the way the world produces, consumes and thinks about food. It is a summit for everyone everywhere - a summit of the people. It is also a summit of solutions that will require everyone to take steps to transform the world's food systems.

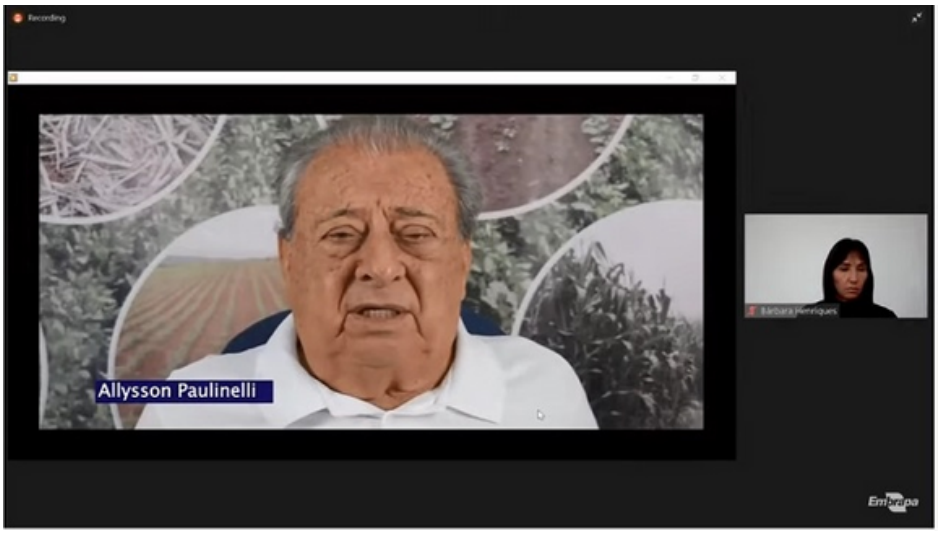
Guided by five action tracks, the Summit will bring together key players from the world of science, business, politics, health and academia, as well as farmers, indigenous peoples, youth organizations, consumer groups, environmental activists and other important stakeholders. Before, during and after the Summit, these actors will come together to bring tangible and positive changes to the world's food systems

“Based on the sustainable development model designed and exported by Brazil, we intend to contribute to position tropical agriculture as a value proposition focused on sustainability and the offer of alternatives for the continent, in the context of the objectives set for the world summit” Manuel Otero, Director General of IICA.



THE DEVELOPMENT PATH OF BRAZILIAN TROPICAL AGRICULTURE: A ROUTE TO SUSTAINABILITY

The tropical agriculture model, based on science, technology and innovation implemented in Brazil, which has made the country one of the main global players in the sector, is the way to strengthen the developing countries of the tropical belt, said experts who met on march 22nd, at the opening of the International Week on Tropical Agriculture (AgriTrop 2021).



“Tropical agriculture is one of the ways to reduce hunger and guarantee peace and food security in the countries of the Americas, Africa and Asia”, Alysson Paolinelli, Former Minister of Agriculture, Livestock and Supply.

According to Paolinelli, Brazil is the concrete example that science is capable of transforming realities. Food importer in 1970s, the country is today a world agricultural power, responsible for feeding 800 million people in more than 160 countries.
The Brazilian *Cerrado*, considered unproductive, is one of the highlights in its agricultural productivity and accounts for 60% of the national grain production. For him, it is essential that there is worldwide mobilization among nations to bring knowledge, technology and innovation to the poorest countries on the tropical fringe.

Roberto Rodrigues added that, from the 1990s until today, the area planted with grains at Basil grew 80% and the production of grains 370%, more than five times the planted area. “The technology generated productivity gains per hectare. Today we have 68 million hectares with grains, we make two or even three harvests a year. If we had today the same 30-year productivity, 110 million hectares would be needed to produce the crop we harvest in 2020/2021, therefore, Brazilian tropical agriculture is sustainable for its basal definition’’, he said

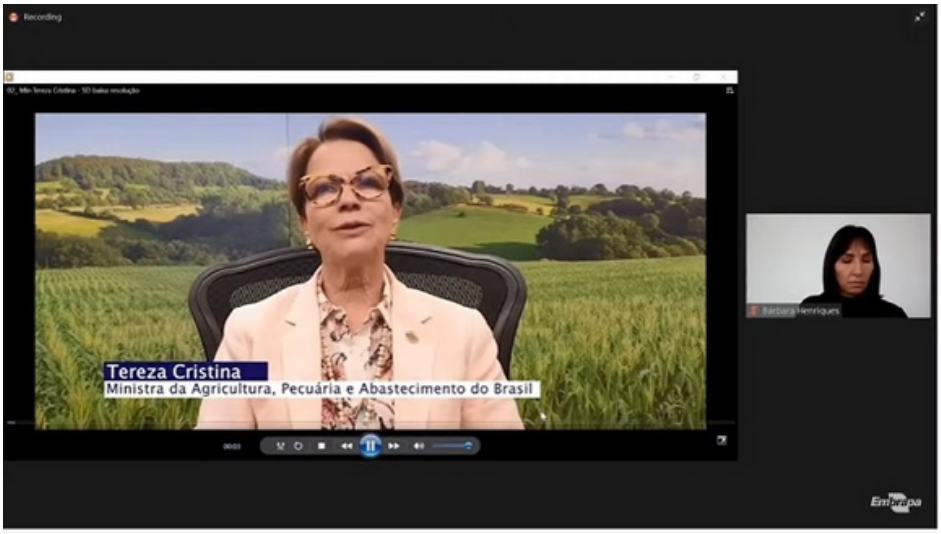
“There is an effort to be disseminated to countries in Latin America, Africa and Asia on the tropical strip”, Roberto Rodrigues, Agribusiness Coordinator at FGV and Former Minister of Agriculture.

THE DEVELOPMENT PATH OF BRAZILIAN TROPICAL AGRICULTURE: A ROUTE TO SUSTAINABILITY

" Thanks to these integrated efforts, we were able to reduce the price of the basic basket by 50%", Celso Moretti, President of the Brazilian Agricultural Research Corporation – EMBRAPA.

For the president of Embrapa, the agricultural revolution in Brazil currently experiencing a new wave, that of sustainability. The Brazilian Forest Code, Low Carbon Agriculture, integrated production systems and techniques such as no-till farming have guaranteed and increased the development of tropical agriculture on a sustainable basis. “The Crop-Livestock-Forest Integration systems, which today occupy an area of more than 17 million hectares in the country, increase productivity, at the same time that they incorporate carbon and reduce the emission of greenhouse gases (GHGs)”, explained.

The Minister of Agriculture, Livestock and Supply, Tereza Cristina, drew attention to the importance of meetings multilateral agreements that will take place this year, such as the Food Systems and COP 26, that will discuss ways to accelerate climate action and progress towards sustainable development and said that he intends to count on IICA and Embrapa for the sectoral and intersectoral meetings that the ministry will promote to extract the position Brazilian meeting to be held at summit meetings.



“If we are to achieve our climate and development goals, it is imperative to recognize the diversity of paths to sustainability, methods of producing diets and cultures that make up global food systems”, Tereza Cristina, Minister of State for Agriculture, Livestock and Supply.

OVERVIEW OF THE DEVELOPMENT OF THE NEW TROPICAL AGRICULTURE IN THE WORLD.

The Director General of the Inter-American Institute for Cooperation on Agriculture (IICA), Manuel Otero, stressed the importance of tropical agriculture for discussions around food systems and argued that the international community should rename the food system as agri-food due to the importance of sector. Otero gave the opening lecture on this session of the International Week of Tropical Agriculture - AgriTrop 2021, which had as its theme the overview of the development of the new Tropical Agriculture in the world, and was moderated by the president of CNPq, Evaldo Vilela.

Keynote speaker of the second session of the International Week of Tropical Agriculture, Manuel Otero, Director General of IICA, suggests that food systems be called agri-food systems and proposes a common agenda for the World Summit.

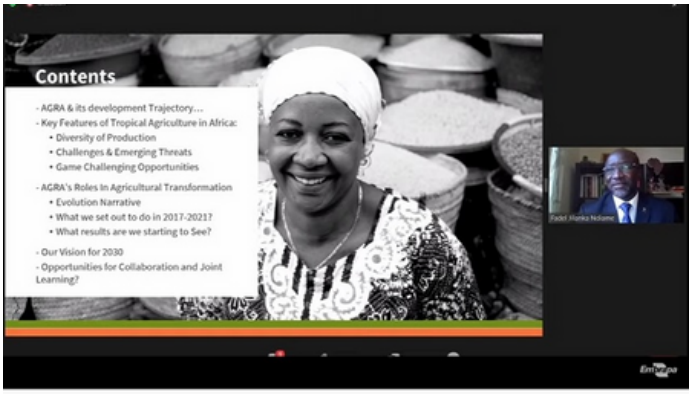
From this agenda, he suggests topics such as good practices in each link in the chains production, improving infrastructures, promoting digital inclusion, reducing losses and waste in production and the consumption and access to availability of green financing for the tropical agenda. “It is essential to define and design alliances and research and innovation platforms in the region intertropical and of this region with the temperate zones of the continent”, he highlighted.

The director of the Agronomic Center Tropical Research and Teaching (Catie), Muhammad Ibrahim, made a presentation on the balance between two trends: the increase in consumption of meat and dairy products and importance of these systems for the economic and social sustainability of tropical fringe countries and the urgency to reduce greenhouse gas emissions.

“Livestock is of great importance for human systems and in combating hunger, but also for impacts on natural systems, environmental degradation and deforestation, and has an important role to play on the global agenda.", Muhammad Ibrahim, Director-General of CATIE.

OVERVIEW OF THE DEVELOPMENT OF THE NEW TROPICAL AGRICULTURE IN THE WORLD.

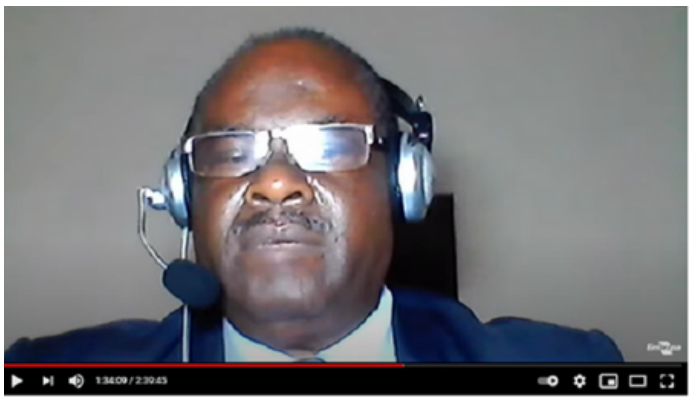
Fadel Ndiame, vice president of the Alliance for the Green Revolution in Africa (Agra), emphasized that the Brazilian experience in the sustainable development of agriculture can be very important for the continent. Despite the difficulties related to the complexity, diversity and size of the region, the institution has worked to unite Africans with roots in agricultural communities around a single green revolution.



'Agriculture is the trigger for Africa's economic transformation", highlighted Ndiame. The population today is 800 million people, but it is expected to reach 1.5 billion by 2050". Fadel Ndiame, Vice-President of AGRA.

"We have a common goal, which is to improve the quality of life of 30 millions of people and agriculture on a sustainable basis is one of the solutions in this regard", highlighted Ndiame, remembering that agriculture represents 2.6 trillion of the African economy and is responsible for generating jobs for the majority of the population, about 60 to 80%, with 80% of the food coming from family farming.

The Professor Joash Kibet, from University of Kabianga in Kenya said that 85% of the country's territory is inserted in an arid or semi-arid region and agriculture, which is small-scale, is an important part of the economy and contributes up to 26% of its GDP, but is vulnerable due to climate issues, aggravated by climate change.



"Innovation eliminates the use of insecticides, which are expensive for the farmer, in addition to causing environmental degradation", Professor Joash Kibett, Kabianga University, Kenya.

OVERVIEW OF THE DEVELOPMENT OF THE NEW TROPICAL AGRICULTURE IN THE WORLD.

Jesús Quintana, managing director of the Alliance of Bioversity International and CIAT, highlighted the importance of science, technology and innovation to promote the transformation of agrifood systems in America Latin, especially rice, beans, sweet potatoes, corn and cassava. CIAT has been active in promoting research aimed at the biofortification of these foods to develop more nutritious varieties, with a higher content of vitamin A., iron and zinc and also in generation of geospatial information to support environmental decision-making in the Amazon.

“The alliance between countries is fundamental to the science and modernization of tropical agricultural systems”, Jesus Quintana, CIAT's Managing Director.

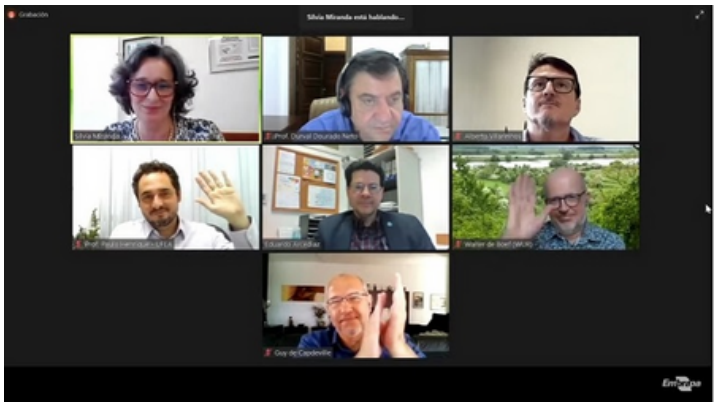
According to Quintana, the Alliance has also invested in holding agroclimatic technical tables on three main themes: climate forecasts, technical knowledge and local knowledge. These actions, which bring together scientific and traditional knowledge, have already benefited around 500 thousand farmers from ten Latin American countries with recommendations for agroclimatic measures.

Sharing platforms was one of the topics addressed by Tanguy Lafarge, from the French Agricultural Research Centre for International Development (CIRAD). He spoke about the international network of partnerships for agronomic research, coordinated by the institution, which covers 1700 employees from various countries, including 300 in Asia, Africa and Latin America. The chain has 12 offices, including in Brazil. The main areas of operation of the network are: biological systems, tropical production and the environment.

“It is a model of shared governance that allows interconnection between participants and the elaboration of global actions”, Tanguy Lafarge, Researcher at CIRAD.

THE CHALLENGE OF TRANSFORMING AGRO-FOOD SYSTEMS WITH SUSTAINABILITY: MAIN LESSONS LEARNED AND THE CONVERGENCE OF AGRICULTURAL AND ENVIRONMENTAL AGENDAS.

The land-saving technologies are among the main highlights of the Brazilian tropical agriculture due to its capacity to increase food production in areas already used for agriculture, avoiding deforestation. Concrete examples of these technologies that already occupy millions of hectares throughout the national territory of Brazil, moving billions of R$ (Reais), were the theme of the opening lecture on the third day of the International Week of Tropical Agriculture (AgriTrop 21), given by the Director of Research and Development of the Brazilian Agricultural Research Corporation (Embrapa), Guy de Capdeville and moderated by Professor Silvia Miranda, from Esalq/USP.



Integrated systems, no-till and biological nitrogen and phosphorus fixation are concrete examples that prove the good performance of these techniques in Brazil.

One of the main advantages of technologies saves land, in the view of Capdeville, is that they serve producers of all sizes: small, medium and great. “These are models extremely democratic and that have achieved impressive results in all Brazilian biomes”, he complemented. Soon enough, Embrapa will make available a publication on these technologies.

Land-saving technologies have significant impact on fruit exports. 2018 data shows that global fruit production is around 930 million tons in just over 80 million hectares. The Brazilian contribution is 42.4 million tons, that is, 4.6% of the total in an area of 2.5 million hectares. For each hectare cultivated with fruit, two jobs are created, totaling five million. The main sustainable technologies used in fruit production are: integrated production, soil cover management, water and nutrient management, pest and disease control and post-harvest management.

‘‘These numbers clearly show that without technology there is no sustainability. And to bring science to the field, we have the support of Brazilian producers, who are highly receptive to technological advances", Guy de Capdeville, Director of Research and Development at EMBRAPA.

THE CHALLENGE OF TRANSFORMING AGRO-FOOD SYSTEMS WITH SUSTAINABILITY: MAIN LESSONS LEARNED AND THE CONVERGENCE OF AGRICULTURAL AND ENVIRONMENTAL AGENDAS.

In his speech on food systems at different scales, Walter de Boef, from the Wageningen University and Research Center, explained why the Netherlands, although 200 times smaller than Brazil, is among the main agricultural exporters. Together, the two countries account for 15% of the world's exports. Brazil is the leader in soybean and oilseed exports and the Netherlands, in flowers and dairy products.

“We are looking for ways to combine forest and animal life. Last week, we had national elections and one of the topics under discussion was the impact of reducing CO2 and nitrogen emissions in agriculture and the livestock sector", Walter de Boef, Senior Researcher at Wageningen University and Research.

According to him, the Netherlands, as well as the Basil of Alysson Paolinelli, also had visionaries such as the ex-minister of agriculture Sicco Mansholt who, post-World War II, was responsible for applying a strong policy of autonomy of grain production, when all the countries of Europe were facing hunger, and also collaborated with the Common Agricultural Policy (CAP).

The representative of the United Nations Food and Agriculture Organization (FAO), Eduardo Arce, spoke about the Global Agenda for Sustainable Livestock (GASL), created by the institution to meet the demands of world governments in the 2000s, for more sustainability in the production of beef cattle and milk.

Despite being an activity of extreme socioeconomic importance for countries and for world food, livestock is often associated with environmental damage, such as the 14% increase in greenhouse gas (GHG) emissions, in addition to the potential deforestation, among others.

Semana Internacional de Agricultura Tropical - Sessão 3

He recalled the importance of the Food Systems Summit, to be held in September in New York, which is part of the objectives of AgriTrop. GASL results will be presented at the world event.

THE CHALLENGE OF TRANSFORMING AGRO-FOOD SYSTEMS WITH SUSTAINABILITY: MAIN LESSONS LEARNED AND THE CONVERGENCE OF AGRICULTURAL AND ENVIRONMENTAL AGENDAS.

The Agronomist Durval Dourado, professor at the University of São Paulo (Esalq/USP) presented data on the intensification capacity (for use in agriculture) and expansion (for livestock use) of irrigation in Brazil, based on data from study prepared by Esalq's public policy area made with information on the flow of surface water resources from the National Water Agency (ANA, for its Portuguese acronym).

Currently, Brazil has 5.3 million hectares of irrigated area. If the entire area identified in the study is used, the country would go to 20.3 m hectares. As the professor explains, considering that in irrigated areas it is possible to obtain two crops, the 20 million ha would be equivalent to 40 million hectares. The calculation does not include the area of fertirrigated sugarcane (2.9 million hectares).

“Brazil has the potential to meet global demand with the expansion and intensification of irrigated agriculture associated with other strategies. In 2016, we had 7 billion people in the world and Brazil was responsible for producing food for about 1.2 billion people, but FAO has given us the task of producing 40% of the demand for food production due to the population increase to 9.8 billion people in 2050.”, Professor Durval Dourado Neto, Director at ESALQ-USP.

The pandemic has been an opportunity for organic fruit producers, said Alberto Vilarinhos, from Embrapa Mandioca e Fruticultura, who spoke about Organic Fruticulture: value sustainability. ‘‘People are more interested in healthier foods that boost the immune system and also more sustainable production’’ he said. “So, organic fruit is all about the food of the future’’.

“In the coming years, international demand should continue to grow, as people associate products with health, food security and a lower environmental impact of production”

THE CHALLENGE OF TRANSFORMING AGRO-FOOD SYSTEMS WITH SUSTAINABILITY: MAIN LESSONS LEARNED AND THE CONVERGENCE OF AGRICULTURAL AND ENVIRONMENTAL AGENDAS.

Professor at the Federal University of Lavras (UFLA), Paulo Leme, endorsed Capdeville's statement. ‘‘The application of agricultural, social and digital technologies is fundamental in building sustainable markets in Brazil. Agriculture 4.0 came to revolutionize and democratize agriculture’’, he believes.

The proof of this is coffee, whose production quadrupled in the last five decades, in a sustainable way, with a reduction of the planted area. At the beginning of the 20th century, coffee farmers produced about seven bags per hectare. Today, that number has jumped to 30 and even, 60, in cases of more technified producers

“Coffee chain has guaranteed family farming quality of life in the countryside and, above all, dignity. Social and marketing technologies perpetuate the work of families and attract young people to the countryside ”

INSTITUTIONAL CHALLENGES AND INNOVATIONS FOR A NEW CHAPTER IN THE DEVELOPMENT OF TROPICAL AGRICULTURE IN THE WORLD

Increase and regulation green funding, encourage national agricultural research systems, promote inclusive digitalization of the field, invest in innovations to meet the growing demand for proteins and cooperate to adapt the forms of production to prepare for the strong climatic impacts, were some of the themes of yesterday's session of the International Tropical Agriculture Week - AgriTrop 202.

The agriculture of the future has to be now, say experts at the fourth session of AgriTrop2021, who discussed ways to guarantee food security in the world, which already totals 800 million hungry people and projects a population of 10 billion by 2050.

INSTITUTIONAL CHALLENGES AND INNOVATIONS FOR A NEW CHAPTER IN THE DEVELOPMENT OF TROPICAL AGRICULTURE IN THE WORLD

Katherine de Matos, from The Good Food Institute (GFI), who moderated the session, recalled that the world demand for proteins is growing and that, until 2050, the world population is expected to increase by 30%, reaching 10 billion, according to projections. “Therefore, alternative proteins are interesting and viable options for this challenge of feeding the world in a more sustainable way. I like to emphasize that alternative proteins are a market that comes to add and allow to meet a real demand ”, she emphasized.

“The total amount of food lost and wasted today in the world is 220 million tons per year, that is, 330 kg per capita. The economic impact on global GDP is approximately 150 billion dollars”.

For Gustavo Chianca, FAO's deputy representative in Brazil, tropical agriculture is one of the keys to rebalancing food security in the world and, for this, digitization in the field must be prioritized. He also pointed to bioeconomics as part of the solution, especially in the use of agricultural crop residues in food. “Thus, in addition to contributing to food security, we add value to agricultural products”.

Pedro Martel, head of the Economy, Environment and Development Division of the Inter-American Development Bank (IDB) highlighted two institutional advances that he considers important: improving national research systems and the availability and regulatory frameworks for green financing. “Brazil, for example, allocates 1.82% of agricultural GDP while Guatemala allocates 0.14% and in most countries it allocates less than 1%. Investments in human capacities, in doctors and researchers, are concentrated in Brazil, Argentina and Mexico. The other countries in the region have few researchers ”, he compared. "This is a central and most important point in relation to institutional changes”.

“Australia, New Zealand and Canada are positive examples that have over 50% of their financial assets in this modality. Latin America has little participation in the financial sector and few support instruments, in addition to lacking clear definitions of what green financing funds are”, Pedro Martel, Head of IDB's Environment Division.

INSTITUTIONAL CHALLENGES AND INNOVATIONS FOR A NEW CHAPTER IN THE DEVELOPMENT OF TROPICAL AGRICULTURE IN THE WORLD

Raj Vardhan, of the International Food Management and Agribusiness Association (IFAMA), presented some of the strengths and weaknesses of agriculture in India, where 1.3 billion people depend on agriculture, largely on subsistence, with a low level of mechanization.

“We are trying to boost traffic on waterways as a logistical option”, Raj Vardhan, President-elect of IFAMA.

Among the advantages, he mentioned the cooperatives, which, according to him, are well organized, which helps to increase the purchasing power of producers. He cited the Electronic National Agricultural Market (Enam), a platform started in 2016, which links markets, created with the aim of helping producers to decide price and sales strategies. “But we still have problems with online payment. The government is trying to improve the database so that each producer has a unique identity”, he explained.

Some of the challenges on the African continent, presented by John Purchase, from AgBiz, South Africa, are similar to India's, such as climate and infrastructure. According to him, the continent is the most affected by climate change. "Today we are already facing serious problems with droughts and floods in several countries," he said. It is also the one that presents the worst scenario in terms of food security.

“Africa has important native products such as coconut and coffee, among others, that could be exported more, besides helping to feed other countries that face problems of populational increase, but it is urgent to invest in infrastructure and logistics.”, John Purchase, CEO of AgBIZ - South African Agricultural Business Chamber.

INSTITUTIONAL CHALLENGES AND INNOVATIONS FOR A NEW CHAPTER IN THE DEVELOPMENT OF TROPICAL AGRICULTURE IN THE WORLD

Jason Clay, of WWF, pointed out that extreme events, caused by climate change, will change the forms of production. “We need to change the way we look at the world. The 21st century is going to see more changes in food systems than we have ever had, and that will happen from production to consumption”, said, and drew attention to the displacements. “There are changes from the East to the West and everything that is in the center and in the South will move to the North and this is already happening in the United States, but it can be seen in the rest of the world as well”, he stated.

“We have to be ready to change our practices and to measure results, because practices are the means and not the end. For this, we need innovation, because what is sustainable today, with the number of people we have and the current climate, in years will no longer be.”, Jason Clay, Vice President of Markets, WWF-USA.

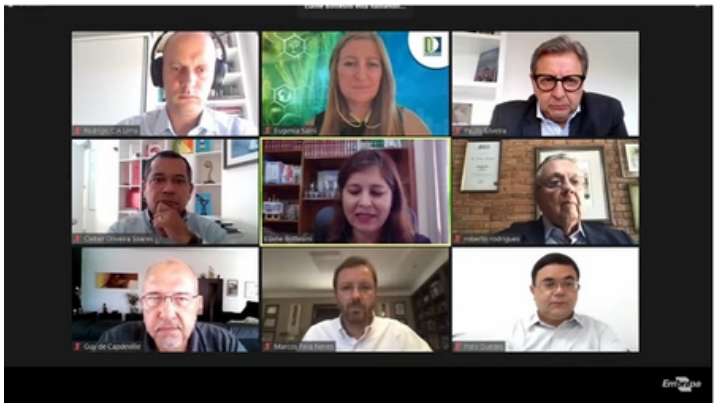
He believes that productivity will increase in the 21st century and agriculture will be very competitive, but that, for that, farmers need to talk and cooperate. As an example, he cited the case of the salmon platform, created among 15 companies that agreed with the reduction of socio-environmental impact and with certification. He stressed that there are still other problems to be considered, such as the use of science and the goals of reducing CO2 emissions.

INNOVATION AND THE FUTURE OF WORLD FOOD: A ROUTE TO SUSTAINABILITY.

On the fifth and final day of the International Week of Tropical Agriculture - AgriTrop2021, experts pointed out the consumer as the beacon of the agriculture of the future. Marcos Fava Neves, a professor at USP and FGV, spoke about the macroenvironment that influences the productive chains of agro today: political, economic, social and technological in the opening lecture of the last session, which was moderated by Rodrigo Lima, from Agroícone.

INNOVATION AND THE FUTURE OF WORLD FOOD: A ROUTE TO SUSTAINABILITY.

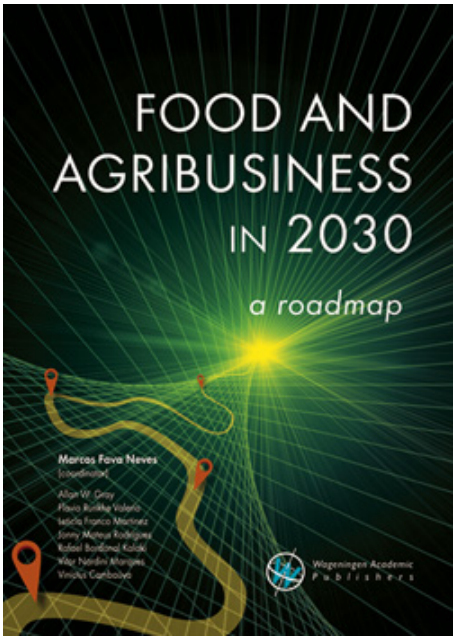
For Fava Neves, the change in the profile of consumers is long lasting, as an example he mentioned the concern with waste; the strengthening of socioeconomic inclusion, especially among the youngest; the valorization of a balanced and healthy diet; animal welfare; collective engagement; confidence in science and support for local production. For him, the demand for jobs related to agribusiness is increasing, especially among young people. He also pointed out that there is a marked growth of startups in Brazil, with a good part of this segment focused on the sector.



Concerns about the environment and balanced diets drive research and innovation

In the professor's assessment, the changes that stand out are also related to the new ways of working, with the introduction of the home-office, in addition to the circular economy and risk management. With regard to agriculture, for Fava Neves, digitization has completely changed the scenario. "Precision agriculture, using satellite monitoring instruments, remote sensing, georeferencing and the use of applications and software, allows agricultural production to be monitored in detail on rural properties no longer in hectares, but literally in square meters", highlighted.

"Precision agriculture, using satellite monitoring instruments, remote sensing, georeferencing and the use of applications and software, allows agricultural production to be monitored in detail on rural properties no longer in hectares, but literally in square meters.", Professor Marcos Fava Neves, USP Ribeirão Preto.



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INNOVATION AND THE FUTURE OF WORLD FOOD: A ROUTE TO SUSTAINABILITY.

Eugenia Siani, executive secretary of Fontagro, explained the operation of this regional fund for agricultural technology, which finances platforms and ecosystems and has the participation of 14 countries in Latin America and four in the Caribbean. “Our challenge is to create new knowledge with technology and innovation so that we can have food security and help to reduce poverty”, explained. According to her, there are currently 167 innovation platforms. “For us, it is important to form agrifood knowledge systems, in order to be more inclusive from the environmental and society point of view”.

“Our challenge is to create new knowledge with technology and innovation so that we can have food security and help to reduce poverty”, Eugenia Saini, Executive Secretary of Fontagro

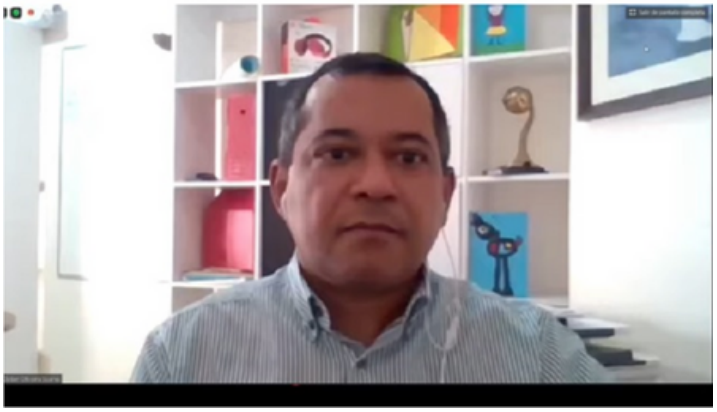
According to Eugenia, the institution focuses on three main strategies: within establishments to increase productivity and create networks; off the farm to help build more sustainable production systems; and the challenge of food, nutrition and health to ensure that all consumers receive the nutrition and quantity of correct vitamins and nutrients. She pointed out that Brazil still does not participate in the mechanism.

In his presentation, Ítalo Guedes, a researcher at Embrapa Hortaliças, spoke about a practical example of innovation: vertical farms for the production of vegetables. The system makes it possible to produce indoors, and in urban centers, using technologies such as sensors for environmental conditions, artificial lighting and crops without soil. “Indoor farms are not subject to climatic impacts or the seasonality of crops. Another advantage is the strict control of pests, which eliminates the need for chemical pesticides, and the reuse of almost all the water used, which makes the practice ideal for cities that suffer from water restrictions”, he highlighted.

“It is not a technology that will replace the cultivation of vegetables in the field, but it is more of a niche in this market.”, Ítalo Guedes, Researcher at EMBRAPA Hortaliças.

INNOVATION AND THE FUTURE OF WORLD FOOD: A ROUTE TO SUSTAINABILITY.

The Innovation Director of the Ministry of Agriculture, Livestock and Supply (MAPA), Cleber Soares, spoke about the Brazilian Federal Government's innovation agenda for agriculture with a horizon to 2025. According to him, until the 1990s, more than 70% of the factor that explained the increase in productivity was land and labor and less than 25%, technology.



For this reason, according to Soares, the Ministry of Agriculture has an agenda with five strategic tracks that he calls B2, to refer to an “increasingly agrobiodigital agriculture".

“When we talk about sustainability, we are not only talking about carbon and the conscious use of water, but also about the climate, especially due to climate change. The second axis is the bioeconomy due to the fact that today more than 70% of the world's food is supported by the nine main agricultural cultures and none of these has a starting point in Brazil. In contrast, we have about 20% of the planet's mega biodiversity”, Cléber Soares, Innovation Director of the Ministry of Agriculture.

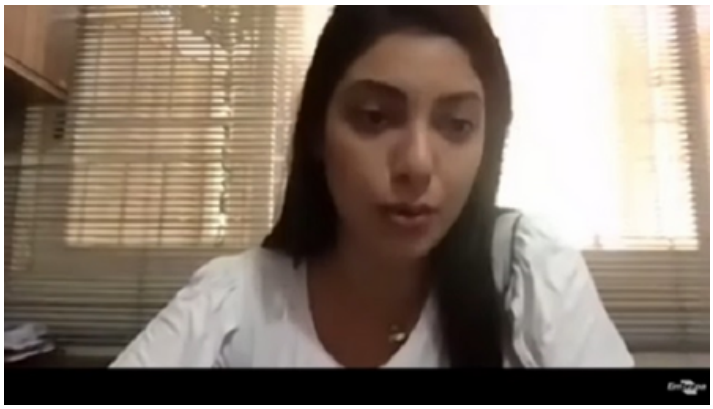
According to Paulo Silveira, CEO of Food and Tech Hub, the innovation model in the area of food is quite consolidated in Brazil and the expectation is to expand to other countries in Latin America, such as Argentina, Colombia and Mexico.

Created just over two years ago, the hub's idea is to bring together disruptive food techs for the virtual construction of stakeholders. The main objective of the Food Tech Hub is to facilitate open innovation and, for that, it works with public and private CT&I partners in Brazil and abroad.

“The pillars that guide the Hub's activities are aligned with the UN Sustainable Development Goals and prioritize new technologies focused on food based on sustainable use and adding value to Brazilian biodiversity, which represents about 20% of the Planet.”, Paulo Silveira, CEO of FOOD TECH HUB BR

INNOVATION AND THE FUTURE OF WORLD FOOD: A ROUTE TO SUSTAINABILITY.

The agricultural influencer and vegetable farmer, Camila Teles, CEO of FarmCom, stressed the importance of intensifying communication about Brazilian agribusiness and Tropical Agriculture and combating the spread of fake news in the sector. For her, the defense of agriculture is everyone's role, especially in the fight against untruths and in the dissemination of technical and scientific information, based on concrete evidence.



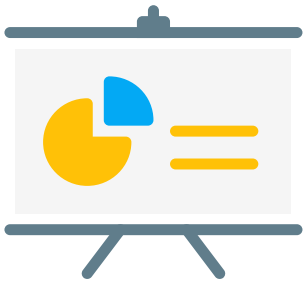
“Sustainability has to be a word that goes alongside the word agriculture”, Camila Telles, CEO FarmCom

Still in this tone, Camila assesses that the risk is that the new generations of the agribusiness may be influenced in the wrong way, with information without proof. In this sense, one of the consequences of disinformation is to disconnect the agro agenda from concepts related to sustainability.

In the evaluation of the influencer, one of the challenges of the sector's communication branch is to bring the producer closer to the final consumer. “Often, producers end up showing an image of superiority, in photos of harvesters, side by side, emphasizing that agribusiness is huge. We have to humanize agriculture. Agriculture has no size, it has importance. The small farmer is important, as well as the medium and the large ones, are important and this must be valued and communicated”, she said. “Brazil is already in the future in relation to agriculture. We can see that there is not only an ideal model of agriculture, but several niches and forms of production. The agribusiness is always developing, improving and changing”, she concluded.

PRESENTATIONS

The experts' presentations are available at the link below



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COMMUNICATION

The International Week of Tropical Agriculture received 1,340 applications. Over the five days of transmissions through the Youtube channels of IICA and Embrapa, 10,656 views were recorded, with a daily average of 2,132, and a peak of 540 people connected simultaneously.

28 press articles were identified, with emphasis on the interviews given by Manuel Otero and Celso Moretti for the AgroMais channel at the opening and closing of the event, mention in the column Vai e Vem das Commodities, by Mauro Zafallon (Folha de S.Paulo), article on the UOL Portal, the EFE news agency and local newspapers in Brasília, Mato Grosso, Tocantins, Minas Gerais and Pará.

During the implementation of the Communication Plan, two meetings were held between communication professionals from IICA and Embrapa with communicators from supporting institutions, in which Esalq, Alysson Paolinelli Committee, Catie, Fontagro and Ciat participated.

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