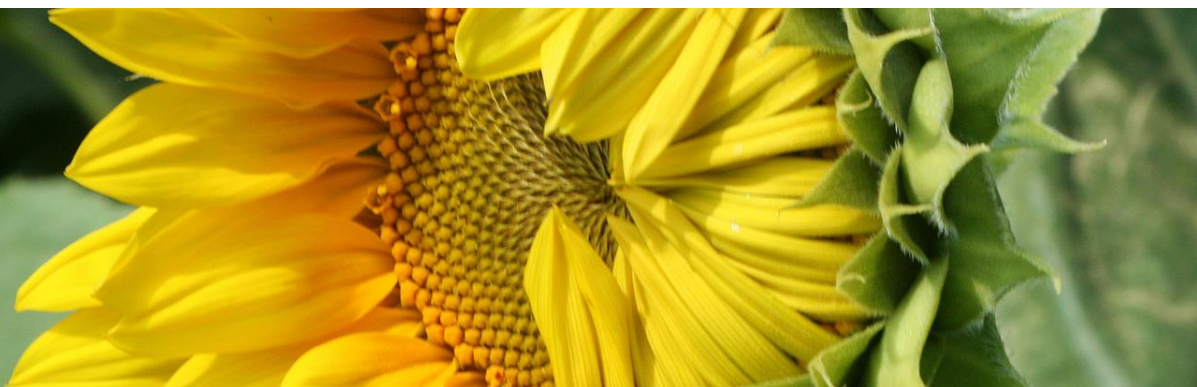




ISA NEWSLETTER N°13, July 2022

International Sunflower Association

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Editorial

The International Sunflower Conference held in Novi Sad, on June 20-23, was a real success despite a difficult context. All the participants fully enjoyed this occasion of meeting around their favourite crop, sunflower, after 6 long years of interactions limited to video conferences.

ISA and the whole sunflower community warmly thank the organizers for their effectiveness and perseverance even with repeated postponements for sanitary reasons. This newsletter is mainly dedicated to this living conference. As usual, you will find information on sunflower regional news and literature.

Enjoy it!

Etienne Pilorgé, ISA Secretary

Activity and News of the association

International Sunflower Conference, Novi Sad, Serbia, June 20-23, 2022

The International Sunflower Conference ISC2022 took place in Serbia in Novi-Sad from June 20th to June 23rd, organised by the Institute of Field and Vegetable Crops (IFVC) under the auspices of the ISA International Sunflower Association. The event was eagerly awaited by the sunflower community: initially scheduled for 2020, it had to be postponed twice due to the Covid 19 disease situation. Despite the still unstable situation and the unfavourable political and economic context, it brought together a large majority of the 438 registered participants from all over the world, despite a weak representation from China, where travel restrictions are drastic. In this complicated context, Serbia offered a very convenient place for participants from all countries.



June 20th, the traditional picture of the conference delegates.

Opening the conference, the President of ISA and Chairman of the ISC2022 organizing Committee, Vladimir Miklic reminded that the Sunflower Conference took place a first time in Novi Sad, 34 years ago, in 1988. In his introductory speech, he highlighted recent developments, which transformed the world and impacted our sunflower community:

<<Six long years have passed since our highly successful conference in Edirne, Turkey in 2016. Here we are together again to celebrate our jubilee, the 20th International Sunflower Conference! A lot has happened in those six years and the world is not the same anymore. The largest concern has been the coronavirus pandemic, due to which the Conference was postponed twice. We have all had to get used to isolating and working from home, online meetings and other changes that Covid-19 has brought to our lives. Yet, the situation has obviously much improved, and we can all be together, face-to-face, here in Novi Sad. We truly hope that in person conferences will once again be a part of our lives.

Global climate change is becoming more and more pronounced! In this part of Serbia, the Northern Province of Vojvodina, over the last 7 years, all average monthly temperatures have exceeded the long-term average by over 1 degree. Due to its anatomical and morphological properties, sunflower has proved to be very adaptable to these changes. As yields of other spring crops vary considerably, sunflower yields have been very stable, often exceeding 3 t per ha in Serbia, which puts us at the very top globally. This is one of the reasons why sunflower growing areas are growing worldwide – they have already reached 28 million hectares!

Sunflower price reached record values in many countries last year! Projections for this year are even higher. The current situation in Ukraine certainly affects this, since over half of the world sunflower production is located in Ukraine and Russia. The impact of high prices of input, fertilizers, pesticides, fuel, and land is also very significant. All of those in turn increase the expense of contract seed production, which results in increased cost of seed and further spirals the price escalation.

The expansion of sunflower growing areas, for example the potential additional 2 million hectares in Siberia, brings forth new challenges to breeders and seed professionals, researchers from the fields of biotechnology, physiology, phytopathology, entomology, herbology, and others, as well as seed producers and processors and those processing sunflower. New weeds, new pathogens, and new broomrape races indicate further research, just like all kinds of stress that lie in wait for sunflower crops in the forthcoming period. The quality of sunflower seed and oil, and the potential of it to be used as a protein source, also create new opportunities. Therefore, perhaps this Conference comes at the right

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time to provide new motivation and synergy aimed at increased successful sunflower production worldwide.

Let me remind you of the role of the International Sunflower Association, which is to promote international cooperation at the agronomical, breeding, technical and nutritional levels, and ensure close links between researchers and producers. This conference crowns the efforts, and over the previous 6 years, in addition to all current activities necessary for the functioning of the Association, the ISA board has worked hard to renew membership and find sponsors, create a new website, publish periodic newsletters and more. In the previous period, several events were organized under the auspices of ISA:

- Symposium on Sunflower & Climate Change, Toulouse, France, February 2018
- 4th Symposium on Broomrape in Sunflower, Bucharest, Romania, July 2018
- WEBINAR "The Sunflower Genetic Resources for Breeding: Germplasm Evaluation and Conservation", Moldova, 21 June 2021
- Workshop on Climate Change – Sunflower Resistance to Drought, Bucharest, Romania, 19-20 August 2021
- Web conference on Sunflower and Pollinators, Toulouse, France, 6-7 October 2021

We are grateful to all the organizers.

The host of our present Conference is the Institute of Field and Vegetable Crops, a national institute of the Republic of Serbia, the largest institute of its kind in south-eastern Europe, established 84 years ago, and one of the leading institutions in sunflower research. There is a lot of work ahead of us in the following four days at the Congress Centre Master, a prestigious venue within Novi Sad Fair, as well as the fields of the Department for Sunflower of the Institute. ISA General Assembly will also take place here. Nonetheless, I am certain that we will also find time to socialize and explore our beautiful host City of Novi Sad, the European Capital of Culture in 2022.

Finally, as the Head of the Organizing Committee of the Conference, I owe my gratitude to our diamond sponsors which are among the leaders on sunflower hybrid seed world market, companies Corteva and Syngenta, on their significant support without which this Conference would not have its format and glow. I am also thankful to our gold sponsors, companies Limagrain, Sanrui from China, and Feed and Seed from Serbia, which have helped raise the quality of the Conference organization, and to all the other sponsors, exhibitors, and donors. Furthermore, I am grateful to the Institute of Field and Vegetable Crops in Novi Sad, Ministry of Education, Science and Technological Development of the Republic of Serbia, Provincial Secretariat for Higher Education and Scientific Research of the Autonomous Province of Vojvodina, Serbia Convention Bureau and the agency Panacomp, all the members of the Scientific and Organizing Committees of the Conference, plenary speakers, moderators and all the participants who have showed us their highest trust by being here in Novi Sad!

Let the days ahead be remembered by high achievements and great ideas, but also by new friendships.>>

The conference featured 9 keynote lectures, 74 oral presentations and 80 posters, and ended with a round table as final synthesis. Most presentations and recording will be made available to ISA members on the ISA website once obtained the due authorization of authors.

The conference was followed by a field day at IFVC, during which discussions on technical aspects of sunflower, beginning with the use of innovations in genetics, were very active. The effectiveness of the IFVC technical team was highlighted by saving this field visit after a very rainy night on the rich soil of the station... clean carpets and overshoes allowed the participants to visit in perfect conditions.



Field Day at IFVC-NS: traditional welcome with bread and salt // Field visit with overshoes and clean carpets after a very rainy night...



The Sunflower Conference core team: Siniša Jocić, Dragana Miladinović, Jegor Miladinović, Sandra Cvejić, Nada Hladni, Vladimir Miklić, Sreten Terzić.

Pustovoit Awards

The Pustovoit Award is “the highest honour conferred to individuals working in the Sunflower Industry”, for eminent contributions to theoretical or applied research in any field dealing with sunflower, development of superior varieties or hybrids, major improvements of cultural practices, major contributions to the development of sunflower cultivation and processing or to international cooperation in sunflower science and technology (see <https://www.isasunflower.org/about-us/pustovoit-awards>).

These awards are traditionally presented at the opening of the Gala dinner of the Sunflower conference. It was no exception this year, and the President of ISA, Dr Vladimir Miklic, presented five awards and celebrated the career and achievements of the recipients.

Mrs Amelia Bertero Romano, representing Argentina, received the award presented posthumously to Mr Carlos Feoli, former CEO of ASAGIR, and former President of ISA (on Mr Carlos Feoli, see <https://www.isasunflower.org/news-events/news/article/mr-carlos-feoli>)

Carlos Feoli has been active in sunflower research and extensionist in Argentina for 40 years, in the Instituto Nacional de Tecnología Agropecuaria, INTA (National Institute of Agricultural Technology),

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where he was responsible for the development of crop production systems and extension agent in the west of the province of Buenos Aires. In 1998 he joined the team that then promoted the concept of the food value chain and worked on the development of the sunflower value chain. In 2000 he was one of the managers of the reorganization of the Argentine Sunflower Association, ASAGIR, and worked accordingly with the concept of food value chain. He led the organization of the Sunflower Conference in Mar del Plata, in 2012.



Mrs Amelia Bertero Romano and Dr Vladimir Miklic, for Mr Carlos Feoli posthumous award.

Then Prof. Maria Duca (Moldova), Prof Yalcin Kaya (Turkey), Prof Stevan Masirevic (Serbia) and Dr Leonardo Velasco (Spain) received their award to the applause of the conference participants.

Maria Duca's research was first related to the classical genetics of inheritance of restorer fertility genes in different types of CMS and hybrid combinations. She also developed many sunflower fertility restoration lines as well as experimental hybrids. She became a Professor of genetics and plant physiology in 1997 at Moldova State University. She has been Principal Investigator in many national research projects in sunflower focused on characterization of the genetic polymorphism (RAPD, SSR, AFLP etc.) of sunflower germplasm and the identification of genes linked with agronomic traits. She has also studied the evolution of the sunflower broomrape races from the Republic of Moldova. She organized several conferences and symposium related to sunflower.

Yalcin Kaya obtained a Post Doctorate on sunflower molecular Breeding in USDA Sunflower Research Unit at Fargo/USA in 2004 and has created 25 hybrids and 40 sunflower parental lines in Turkey and other countries. He has participated in important improvements of cultural practices (fertilizer use, plant protection, weed control, tillage, and harvesting methods). He is founder and partner of the research company Trakya Genetics R&D Co. in Trakya University Technopark as authorized private research company on field and vegetable crops conducting breeding programs on oil and confectionery sunflower and other crops and other research studies on plant genetics and genetic engineering. He has organized international conferences and symposia, notably ISC 2016 in Edirne.

Stevan Masirevic's pathology research had an international impact, and his leadership roles, within Serbia, FAO, and ISA have contributed to the advancement of sunflower technology and production in Serbia and around the world, during his career both as a scientist and a professor for over 40 years (1976-2019). ISA members have access to their career profile and achievements through their personal

pages on the ISA website directory. His most significant contribution is the discovery and the first description in the world of the previously unknown phenomenon - Phomopsis stem canker of sunflower (*Phomopsis* spp.). Together with the Serbian Academician Dragan Skoric, Stevan Masirevic is the co-author of three sunflower hybrids registered in the European Union. His work encompasses other important subjects in pathology - sunflower pathogens (rust, downy mildew, *Phoma* and *Sclerotinia* – broomrape) and improvement of the sunflower production.

Leonardo Velasco is Agricultural Engineer, and PhD in Genetics and Plant Breeding. He obtained in 2001 a research position at the Institute of Sustainable Agriculture (IAS) in Cordoba and during the last four years has been director of IAS. He has outstanding contributions in applied research in sunflower mainly in the fields of genetics, breeding for oil quality and broomrape resistance and oil technology. He has actively participated in the development of sunflower germplasm with improved oil quality (fatty acids, tocopherols and phytosterols), germplasm with resistance to virulent races of *Orobanche* and several international patents dealing with sunflower oil quality. He has made also outstanding contributions to international cooperation in sunflower science and technology and participated actively in the organization of international conferences on sunflower, including the 17th International Sunflower Conference.

ISA members have access to their career history and achievements through the ISA Website directory.



From up left to down right: Prof Maria Duca, Prof Yalcin Kaya, Dr Stevan Masirevic and Dr Leonardo Velasco with Dr Vladimir Miklic, President of ISA, Laetitia Devedeux (ISA Assistant Secretary) and Etienne Pilorgé (ISA G. Secretary-Treasurer).



The two Pustovoit Awardees from Serbia together: Stevan Masirevic (2022) and Dragan Skoric (1988).

Best poster Awards

For the first time, the organizers of the conference decided, with full support of ISA, to offer a Best Poster Award to encourage students and young researchers in sunflower research. This initiative was implemented by Dr Dragana Miladinovic and Dr Sreten Terzic for the Conference Scientific Committee, who mobilized the plenary speakers to make the Jury.

The first prize was given to Dr Hudaverdi Gurkan (Turkey, Ankara University) for his poster on “The effects of climate change on sunflower yield in the Konia basin of Turkey”, based on the use of DSSAT and CSM-CROPGRO-Sunflower crops models. A second prize was given to Mrs Phrasia Mapfumo (PhD student at FABI, South Africa) for her poster entitled “Planting date and environments affect sunflower development, yield and sclerotinia head rot progression”. We wish them a successful career in sunflower research or development.



Dragana Miladinovic and Hudaverdi Gurkan



Sreten Terzic and Phrasia Mapfumo

ISA General Assembly

The General Assembly has been held in Novi Sad on June 22nd, at the end of the Conference, for the first time since 2016 in Edirne, a time span quite exceptional in the life of the association. The report of activity of ISA during these 6 years was very rich, as well as proposals for some evolutions in the Articles of Association, which explain the rules for the current activity of ISA. These propositions were reflecting the exchanges at the Board level to improve the governance and adjust some out-of-date elements. The financial report was presented, showing a satisfying and safe situation, and margin to support new initiatives in ISA activities. A proposition was also made for the appointment of the Board of Directors for the next mandate.

The complete agenda was respected to give full information to the attending participants, but unfortunately, we did not reach the quorum of members present or represented to take legally valid decisions. As mentioned in the statutes, this case leads to renew the General Assembly with an identical agenda and to proceed to a new vote, this time without the need for a quorum, the decisions being taken by the majority of those present or represented. As we are no longer able to meet physically, this General Assembly will be held by video conference on September 16th, 2022, from 13:00 to 15:00 GMT and the vote will be organised using a special software. All members are highly encouraged to attend this online meeting. They will also have the possibility to appoint a proxy, or to vote online within 24 hours after the online meeting.

At the end of the General Assembly, a video presentation by Prof Zhao Jun invited all to the next Sunflower Conference in China Inner Mongolia, in 2024.



End of ISA general Assembly, video invitation to the next ISC in China Inner Mongolia in 2024.

Value chains and regional news

"The Belt and Road Initiative: International Symposium on Sunflower Pests and Diseases"

The highly anticipated international symposium on sunflower pests and diseases organized as part of the belt and road initiative was successfully held on April 29th, in Inner Mongolia Agricultural University, Huhhot. This online symposium was successful amid at the lock down and travel restrictions due to the COVID-19 pandemic, thanks to the sponsorship from the College of Horticulture and Plant Protection of Inner Mongolia Agricultural University and the joint organizational effort of the Moldova State University and Trakya University, Turkey.

The symposium started at 14:00 Beijing time with an opening address from the dean of College of Horticulture and Plant Protection, Professor Hongyou Zhou. He urged participants to take advantage of initiatives such as the belt and road to strengthen the cooperation among each other on Sunflower Pest Control Strategy. Professor Maria Duca, who is the Director of the Centre of Functional Genetics and the Doctoral School of Biological, Genomic, Chemical and Technological Sciences of the Moldova State University and Professor Yalcin Kaya, Head of Department for Genetic and Bio-engineering of Trakya University were also on hand to deliver their welcome address at the opening ceremony that was chaired by Professor Jun Zhao of Inner Mongolia Agricultural University. 12 speakers including young teacher, PhD, and master students from three universities gave talks, which were focused on different aspects of sunflower pest.

Professor Zhou during his address talked about the achievements made in the field of sunflower research by Chinese scientists and stressed on the rapid expansion of the sunflower industry across the globe also leading to occurrence of the new sunflower pests and diseases, hence, the need for technocrats and academicians to come together to solve these existing and new challenges is urgent and important for guarantying the safety of sunflower industry globally. He iterated the need to strengthen development of the sunflower industry in Inner Mongolia Automous region to aid in the overall development and alleviate poverty among many others in Mongolia minority region.

The entire symposium lasted for about four hours, with the academic interaction section being divided into three modules: emerging sunflower diseases and pests in countries along the belt and road, research progress on preventive and biological control management technologies against existing and emerging sunflower diseases and the research progress on host and pathogen interaction mechanism. In all there were about a hundred participants including reputable research scientists and students from within and outside China. The speakers presented in depth ongoing research findings on sunflower seed rust, downy mildew, broomrape, *Verticillium dahliae* and impact of global warming on the sunflower industry. The academic section was a very interactive and highly educative with lots of questions and contributions coming from all and sundry.

At the closing ceremony, Professor Zhao Jun of Inner Mongolia Agricultural University gave a summary of the conference report and emphasized the importance of the symposium serving as a bridge for academic exchanges between the sunflower pest and diseases research team and the international community. She also thanked and entreated the sunflower community to continue their contribution to promoting the healthy development of China's sunflower industry and ensuring the smooth implementation of China's Belt and Road initiative.

USA: Research Forum and Sunflower Production Conflab

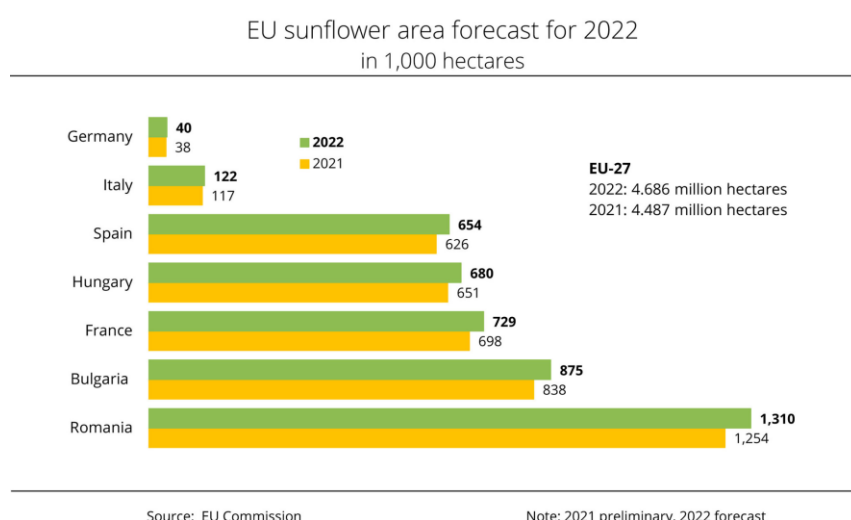
All the reports given at the 2022 Sunflower Research Forum are available through the NSA website under the 'Research' tab. Visit '2022' ([sunflowernsa.com](https://www.sunflowernsa.com)), at <https://www.sunflowernsa.com/Research/Research-Forum-PowerPoint-Presentations-Since-2008/2022/> "Researchers from North and South Dakota, Kansas, Colorado and Florida presented papers and posters on their work. For a historical look, presentations dating back to 2008 are available

on the NSA website as well.” Many issues concerning biology and crop protection, as well as breeding are illustrated (source: The Sunflower Magazine, March 2020)

On more directly applied aspects for farmers (pests, weeds and diseases control, nutrients management, marketing...), the video recording of the Sunflower Production Conflab are available at <https://www.ndsu.edu/agriculture/ag-hub/getting-it-right>.

EU Commission expects expansion of EU sunflower area

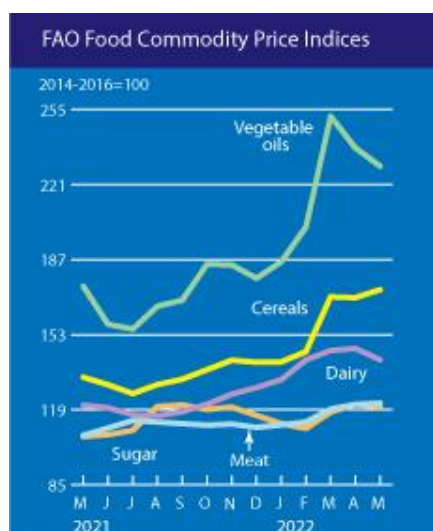
The EU Commission anticipates a significant increase in area for the 2022 harvest to a potential new record. The main reason is the expected expansion in production area in the most important sunflower-producing countries in the EU.



Read more at UFOP Chart of the week 21 2022: https://www.ufop.de/english/news/chart-week/#kw26_2022

FAO food commodity price indices shows contrasted trends

According to FAO, The FAO Vegetable Oil Price Index got down 8.3 points (3.5 percent) in May yet remaining markedly above its year-earlier level. “The monthly decline mainly reflects lower prices across palm, sunflower, soy, and rapeseed oils. International palm oil prices weakened moderately in May. Apart from demand rationing, the removal of Indonesia's short-lived export ban on palm oil exerted additional downward pressure on prices, although a further price drop was contained by lingering uncertainties over the country's export prospects. Meanwhile, world price quotations for sunflower oil fell from recent record highs, with stocks continuing to accumulate in Ukraine owing to logistical bottlenecks. International soy and rapeseed oil prices also declined somewhat in May, chiefly weighed by sluggish import demand in view of elevated costs in recent months”. At the same time, the cereals index was still going up, mainly because of wheat in response to an export ban by India, when coarse grains prices declining.



Source: <https://www.fao.org/worldfoodsituation/foodpricesindex/en/> on 7th July 2022

Scientific news

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GENETICS AND BREEDING

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Coming international and national events

European Society of Agronomy Congress; August 29th to September 2nd, 2022, Potsdam, Germany



https://esa-congress-potsdam2022.de/frontend/index.php?folder_id=4191&page_id=

ISA NEWSLETTER No.13, July 2022



19th Euro Fed Lipid Congress and Expo, 17-20 September 2022, Poznan/Poland



19th Euro Fed Lipid Congress and Expo

<https://eurofedlipid.org/#events>

7th International Plant Phenotyping Symposium, 27-30 September, 2022, Wageningen/Netherlands



The 7th International Plant Phenotyping Symposium, IPPS 2022, brings together a multidisciplinary community of plant biologists, ecologists, engineers, agronomists and computer scientists. IPPS 2022 will serve as a platform to discuss and realize options to harness the power of plant phenotyping and contribute to a sustainable future. The conference brings together prominent speakers from around the globe and offers an excellent network opportunity for companies and other partners from the private sector. **See:** <https://www.plant-phenotyping.org/ipps7>

The IPPN (international plant phenotyping network) organizes regular webinars (https://www.plant-phenotyping.org/SUBMIT_WEBINAR_SERIES_IPPN_EPPN_EMPHASIS_2021)

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