June 2021 International Society of Sugar Cane Technologists Founded 1924 Bulletin

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News from ISSCT & Friends

Meeting of ISSCT Executive Committee and Technical Programme Committee

The ISSCT ExCo and TPC will hold a virtual meeting on 8 July 2021 to consider various scientific/technological/administrative matters given that it will not be possible to hold the Mid-Term Meeting scheduled for July owing the COVID-19 pandemic.

Among the items on the Agenda are the holding of Thematic Workshops and the XXXI Congress in December 2022, Strategic Initiatives decided upon at the XXX Congress and Celebrations of the Centennial of the Society in 2024. The outcome of the meeting will be communicated to members.

Bonsucro launches 'Strategic Plan 2021 – 2026 – Changing for Good'

Bonsucro, the global membership organisation that promotes sustainable sugarcane production, processing and trade around the world, has released its new 'Strategic Plan' for 2021-26.

The five-year strategy for Bonsucro "builds on the achievements and progress of recent years, blends experience with new approaches, recognises where we need to do better, and sets an agenda for continuous improvement based on rigorous monitoring, evaluation and learning."

- *Find the full strategy here.*
- *The strategy summary can be found here.*
- *Sign up to one of Bonsucro's strategy launch webinars here.*

79th STAI Annual Convention and International Sugar Expo 2021 – Call For Research Papers

The 79th Annual Convention of The Sugar Technologists' Association of India (STAI) is scheduled to be held in the last week of September 2021.

STAI invites quality research papers of scientific, technological or economic nature as per the appended guidelines, in the below mentioned four sections:

a) *Sugarcane Agriculture*
b) *Factory Processing*
c) *Factory Engineering (It includes equipment design, automation, energy efficiency and conservation)*
d) *Co-Products (It includes distillery, fuel ethanol, Bio-CNG, environment and management) Papers should be on recent Research, Innovation or Case Study but must not be of overtly commercial nature.*

Link

News from Estación Experimental Agroindustrial Obispo Colombres (EEAOC)

On May 27, a webinar titled "Innovation and added value in the sugar sector of MERCOSUR" was carried out. The seminar was opened by Dr. Daniel Ploper (Director of the Estación Experimental Agroindustrial Obispo Colombres, EEAOC, Argentina), Ing. Álvaro Simón Padrós (Minister of Productive Development of Tucumán, Argentina) and Ambassador Jorge Neme (Secretary of International Economic Relations of Argentina) and was co-organized by: EEAOC and three ministries of Argentina (Foreign Relations, Agriculture and Cattle Production, and Productive Development).

The seminar was divided into five sessions, the first one moderated by Ing. Jorge Scandaliaris (EEAOC) was related to innovations in the production and industrialization of sugarcane, production technologies and sustainable production. It included three speakers: Dr. Mario Melgar (Cengicaña; Guatemala), Dr. Rafaella Rosetto (Agência Paulista de Tecnologia dos Agronegócios, Brazil) and Luís Dario Ruiz Diaz (Manduvirá Cooperative, Paraguay).

The second session was conducted by Ing. Miguel F. de Ullivarri and was dealt with the environmental management and control, and the carbon balance. This session included three presentations by Dr. Arnaldo C. Walter (State University of Campinas, Brazil), Ing. Philippe Conil (Biotec International S.C., Belgium) and Dr. Electo Silva Lora (Itajuba University, Brazil).

The third session was related to tools for sugarcane improvement and was moderated by Dr. Atilio Castagnaro (ITANOA, EEAOC-CONICET, Argentina). Two speakers participated in this session: Dr. Marcos Landell (IAC Sugarcane Center Director, Brazil) and Dr. Maria Francisca Perera (ITANOA, EEAOC-CONICET).

The fourth session was about added value in sugarcane, conducted by Dr. Dora Paz and Ing. Marcelo Ruiz (EEAOC). It contained several presentations grouped as followed: introduction (Dr. Gabriel Raya Tonetti, Ministry of Science and Technology of Córdoba,

Argentina); Biomass, bioenergy and bioderivates (Dr. Regis Verde Lima Leal, Laboratório Nacional de Ciência e Tecnologia do Bioetanol, Brasil); Bioethanol (Ing. Jorge Feijóo, Centro Azucarero Argentino); Bioproducts (Dra. Laura Tórtora, EEAOC, Argentina); and Bioplastics and their derivates (Ing. Gregorio Katz, Tensac, Argentina).

The fifth and last session was about Sugar and Health, moderated by Dr. Graciela Di Benedetto Puerto (Universidad del Norte Santo Tomás de Aquino, Argentina). Two speakers showed their results, Lic. Rocío Soria Aramayo (Universidad del Norte Santo Tomás de Aquino, Argentina) and the moderator of the session.

In summary, the seminar was a propitious space for knowledge exchange in which the need to work towards a sustainable management through innovation was highlighted, considering the concept of circular economy and the sugar industry as a biorefinery. Sugarcane has been considered as a sugar producer since its beginning; however, today it is relevant to take advantage of sugarcane, considering that is the most efficient crop producing biomass, to obtain energy and new products with added value. There is a change in paradigms, where several disruptive technologies can be incorporated in order to replace fossil fuels. Bioenergy obtained from sugarcane could aid to solve two challenges, the climate change by reducing greenhouse gas emission and the unemployment rate considering the number of jobs that sugarcane industry can generate. Two other main aspects were remarked, the production of organic sugar with high demand in the international market and the agronomic value of vinasse over its energetic value.

More than 170 participants from different places attended to the webinar that pretends be the first of others to come. Presentations can be downloaded from the following websites:

https://www.cancilleria.gob.ar/es/actualidad/noticias/seminario-innovacion-y-valor-agregado-en-el-sector-azucarero-del-mercosur
and
https:/www.eeaoc.org.ar/

Sugar Cane News

Brazil sugar output falls 25% yr/yr as cane agricultural yields fall 10% [Brazil]

Nasdaq	**Nasdaq**	**May 12, 2021**	**https://www.nasdaq.com/articles/brazil-sugar-output-falls-25-yr-yr-as-cane-agricultural-yields-fall-10-2021-05-12**
	NEW YORK, May 12 (Reuters) - Brazil's center-south sugar production fell 25% in the second half of April compared with a year earlier to 1.51 million tonnes, as cane agricultural yields lag last year's by more than 10%, industry group Unica said on Wednesday.		

Minimum Cane Price, Import Cuts Will Sweeten Kenyan Sugar [Kenya]

CAPITAL NEWS	**Capital News**	**May 14, 2021**	https://www.capitalfm.co.ke/news/2021/05/minimum-cane-price-import-cuts-will-sweeten-kenyan-sugar/

After decades of poor performance, Kenya's sugar industry is set for better times ahead following recent State interventions to stabilize cane prices, curbing illicit sugar imports and improved productivity, with the over 300,000 small-scale sugar farmers set to reap the benefits.

Domestic sugar industry needs support from appropriate policies [Vietnam]

SÀI GÒN ONLINE	**S&P Global Platts**	**May 18, 2021**	https://sggpnews.org.vn/business/domestic-sugar-industry-needs-support-from-appropriate-policies-92324.html

Sugarcane - an indispensable raw material in the sugar industry, an important factor creating the appearance of Vietnam's sugar industry - is on the verge of being forgotten when the crop structure is replaced. To promote the conversion of farming from manual agriculture, in recent years, enterprises have actively supported bringing mechanization into the fields.

Some enterprises have even brought the world's leading agricultural mechanical equipment to serve the sugar industry. Unfortunately, the mechanization still faces many difficulties, especially in the condition that the sugarcane growing area remains on a small scale and lacks the systematic planning as currently. This is an important obstacle that farmers and enterprises cannot remove by themselves, but it requires the legal corridors of the State. Until then, farmers and enterprises are still struggling with the problem of the efficiency of sugarcane. As a result, many small-scale sugarcane growing areas could not be maintained, and the sugarcane raw material area is increasingly narrowed.

Uttar Pradesh picks Maharashtra plan to make oxygen at ethanol plants [India]

THE TIMES OF INDIA	**The Times of India**	**May 11, 2021**	https://timesofindia.indiatimes.com/city/aurangabad/up-picks-maha-plan-to-make-o2-at-ethanol-plants/articleshow/82539718.cms

Uttar Pradesh, a big sugar producing state, has decided to follow Maharashtra's 's path to produce oxygen at its sugar mills to meet the rising demand for treatment of Covid patients.

The Dharashiv Sugar Mill in Osmanabad district of Maharashtra has already started the country's first trial to produce medical grade oxygen at ethanol plants at sugar mills. Once operational, it will be replicated at almost all sugar factories in the state.

There are 195 sugar factories in Maharashtra, out of which, 137 have ethanol plants. Whereas there are over a dozen standalone ethanol plants across the state. This process is likely to turn Maharashtra's sugar bowl into an oxygen bowl amidst the ongoing pandemic.

Despite The Pandemic The Sugar Research Institute Presses To Grow The Yield [Fiji]

Fiji Sun	**May 25, 2021**	https://fijisun.com.fj/2021/05/25/despite-the-pandemic-the-sugar-research-institute-presses-to-grow-the-yield/

COVID-19 has adversely affected the present and future activities of the Sugar Research Institute of Fiji. One of the main goals of the Sugar Research Institute of Fiji is to uplift the standard of sugarcane research in Fiji including cane breeding.

Technical officer Shazil Hassan said: "The major objective with respect to cane breeding is to achieve high yielding cane varieties with disease resistant characteristics as well as wide adaptation to different soil types and environment.

Transform agriculture through production of improved seed varieties [Tanzania]

IPP Media	**May 31, 2021**	https://www.ippmedia.com/en/features/transform-agriculture-through-production-improved-seed-varieties

Coastal region has urged a centre of excellence for research and production of improved sugarcane (TARI Kibahi centre) to green up the region by transforming agriculture and farmers through research and production of improved crop varieties.

'Way forward': Inorganic fertilizers out, nanofertilizers in [Philippines]

Manila Bulletin	**May 30, 2021**	https://mb.com.ph/2021/05/30/way-forward-inorganic-fertilizers-out-nanofertilizers-in/

Researchers from the University of the Philippines Los Baños (UPLB) have developed nanofertilizers that could help the country achieve a more sustainable and eco-friendly agricultural production.

The Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) said the Agricultural Systems Institute and Institute of Crop Science of the UPLB developed FertiGroe® nitrogen (N), phosphorus (P) and potassium (K) nanofertilizers to reduce farmers' use of synthetic fertilizers and at the same time, increase their profits and produce.

Iran annuls private ownership of its largest sugarcane mill

Press TV	**May 8, 2021**	https://www.presstv.com/Detail/2021/05/08/652242/Iran-sugarcane-company-renationalized

Iran's largest sugarcane mill has returned to government ownership after a long legal battle which proved the country is determined to go against fake privatization schemes despite negative implications it might have for private investors.

	Local news agencies said in reports on Saturday that the final court ruling on renationalization of Haft Tappeh Sugarcane Company had been issued earlier in the day.

Sugarcane growers hoping to produce aviation fuel in future [South Africa]

	IOL	**May 25, 2021**	**https://www.iol.co.za/business-report/energy/sugarcane-growers-hoping-to-produce-aviation-fuel-in-future-b5f3e50b-8791-43a9-bd41-2b8d958f8fb8**
IOL	*JOHANNESBURG - Sugarcane growers could get a new lease on life after a study found it was feasible to produce sustainable aviation fuel (SAF) using ethanol derived from sugar cane.* *This could yield about 433 million litres a year, taking more than half the near-stagnant sugarcane output.* *The study, jointly undertaken by the South African Canegrowers Association (SA Canegrowers) and the Roundtable on Sustainable Biomaterials, found that if 50 percent of the country's 19 million plus tons of annual sugarcane production was diverted to the production of ethanol, it could lead to an output of about 700 million litres of low-carbon ethanol, which could make 433 million litres of SAF using "alcohol-to-jet" fuel refineries.*		

Calls to cut red tape around sugarcane industry [Australia]

	Queensland Country Life	**May 19, 2021**	**https://www.queenslandcountrylife.com.au/story/7255387/calls-to-cut-red-tape-around-sugarcane-industry/?cs=4715**
QUEENSLAND Country Life	*Government red tape needs to be slashed to increase Australia's sugar production, with canegrowers and millers alike calling for a reduction of regulations.* *The Australian Sugar Milling Council and Canegrowers have both taken aim at Queensland government red tape in recent days, with ASMC focusing on an industry revitalisatation strategy while Canegrowers continues to home in on reef regulations.*		

We can mill all our cane, ASR/BSI says [Belize]

	Amandala	**May 5, 2021**	**https://amandala.com.bz/news/we-can-mill-all-our-cane-asr-bsi-says/**
AMANDALA	*The American Sugar Refining Group (ASR) and the Belize Sugar Industry (BSI) are objecting to the Government of Belize's claim that they are incapable of milling all of the sugarcane produced by local caneros without waste — a claim which is the basis of GOB's move to facilitate the sale of cane by Northern farmers to the Santander Group. ASR/BSI issued a release condemning this action and insisted that they are very capable of milling all the sugar cane produced in Northern Belize.*		

Sugar policy to earn Nigeria $700m yearly, says Dangote [Nigeria]

	The Nation	**May 28, 2021**	**https://thenationonlineng.net/sugar-policy-to-earn-nigeria-700m-yearly-says-dangote/**

Chairman, Dangote Sugar Refinery (DSR) Plc, Alhaji Aliko Dangote, yesterday urged government to faithfully implement the national backward integration policy in the sugar industry as the implementation will bring foreign exchange of up to $700 millon yearly from sugar production self-sufficiency.

Speaking yesterday at the 15th annual general meeting (AGM) of the company in Lagos, Dangote said that allowing for distortions in the sugar masterplan framework will adversely affect the target of the nation attaining self-sufficiency as projected.

New planting technology to boost Australian sugarcane industry [Australia]

	Biofuels International	June 4, 2021	**https://biofuels-news.com/news/new-planting-technology-to-boost-australian-sugarcane-industry/**

New Energy Farms (NEF) and Sugar Research Australia (SRA) have entered into an agreement to undertake research into crop expansion technology (CEEDS) in the Australian sugarcane industry. NEF is a crop technology company, established in 2010, to develop artificial seeds for crops that do not produce conventional seeds like sugarcane.

Biological controls in Brazil threaten crop pests — and chemical companies [Brazil]

	Financial Times	**May 11, 2021**	**https://www.ft.com/content/d3e387a8-6350-4216-9121-98724a1059a6**

Wasps, fungi and bacteria are being deployed as a green alternative to toxic sprays

Released into the sugarcane fields by drones, the wasps track their prey with ruthless efficiency. Guided by finely tuned senses, they hunt down the eggs of the sugarcane borer — a moth whose ravenous larvae have long plagued Brazilian farmers — and parasitise them.

When the eggs hatch, instead of the borer's progeny, more wasps emerge. In short order, the pest population in the sugarcane is obliterated and the wasps begin to die off for want of prey.

Evaluating Pakistan's Fertilizer Consumption [Pakistan]

	Technology Times	**May 29, 2021**	**https://www.technologytimes.pk/2021/05/29/evaluating-pakistans-fertilizer-consumption/**

It is commonly acknowledged that fertilizer use in Pakistani agriculture is heavily biased toward urea application. After all, the bulk of Pakistan's small-scale and subsistence farmers can't afford high-value fertilizers like DAP and nitro phosphates. The credo among the country's innovative farmers is that the key to unlocking goal crop yields is an optimal ratio, not a maximal application.

	But how widespread is urea overuse? The yearly fertilizer consumption numbers provided in the Pakistan Statistical Yearbook by PBS and in the Annual Economic Survey are the go-to reference for most scholarly analyses of fertilizer usage.

Thailand approves 192-mln-USD subsidy to reduce burning of sugarcane fields [Thailand]

Vietnam+	**Vietnam Plus**	**May 12, 2021**	**https://en.vietnamplus.vn/thailand-approves-192mlnusd-subsidy-to-reduce-burning-of-sugarcane-fields/201378.vnp**
	Thailand's Cabinet on May 11 approved a subsidy worth 6 billion baht (192 million USD) for sugarcane farmers who cut fresh cane for sugar factories instead of burning them, in a bid to reduce air pollution caused by the burning of plantations. *The move was proposed by the Industry Ministry, with the Bank for Agriculture and Agricultural Cooperatives (BAAC) chosen to handle disbursement of the subsidy.*		

Ayub Agricultural Research Institute scientists oppose privatization of four departments [Pakistan]

Daily Times	**Daily Times**	**May 20, 2021**	**https://dailytimes.com.pk/758640/ayub-agricultural-research-institute-scientists-oppose-privatization-of-four-departments/**
	FAISALABAD: The decision to privatize wheat, sugarcane, rice, and maize departments of the Ayub Agricultural Research Institute has stirred unrest among the scientists and employees. Reports say the decision was taken due to allegations of delay in research and uncontrolled management structure. There has been a wave of uneasiness and concern among agricultural scientists and they have declared privatization the enemy of agriculture and farmers.		

A rash of plant diseases threatens biodiversity [West Africa]

Afrik 21	**Afrik21**	**June 2, 2021**	**https://www.afrik21.africa/en/west-africa-a-rash-of-plant-diseases-threatens-biodiversity/**
	A team of researchers from West African Virus Epidemiology (Wave) is alerting public opinion to the proliferation of four agricultural plant diseases in West and Central Africa. According to the researchers, these diseases pose a threat not only to food security, but also to biodiversity. Cassava mosaic", "cassava brown streak", "banana disease" and "sugarcane virus", new pathologies that only existed on the Asian continent, are expanding in West and Central Africa.		

Latest Research

Model shows solar geoengineering may be surprisingly effective in alleviating impacts of global warming on crops

Harvard John A. Paulson School of Engineering and Applied Sciences

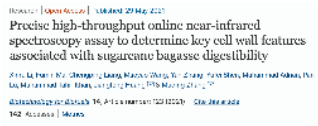
Solar geoengineering — putting aerosols into the atmosphere to reflect sunlight and reduce global warming — is not a fix-all for climate change but it could be one of several tools to manage climate risks. A growing body of research has explored the ability of solar geoengineering to reduce physical climate changes. But much less is known about how solar geoengineering could affect the ecosystem and, particularly, agriculture.

The team looked at three types of solar geoengineering — stratospheric aerosol injection, marine sky brightening, and cirrus cloud thinning — and their impact on the global yield of maize, sugarcane, wheat, rice, soy and cotton in a business-as-usual future where emissions continue at their current levels.

Published: 20 May 2021

> **Link**

Precise high-throughput online near-infrared spectroscopy assay to determine key cell wall features associated with sugarcane bagasse digestibility


Precise high-throughput online near-infrared spectroscopy assay to determine key cell wall features associated with sugarcane bagasse digestibility

- *Xinru Li,*
- *Fumin Ma,*
- *Chengping Liang,*
- *Maoyao Wang,*
- *Yan Zhang,*
- *Yufei Shen,*
- *Muhammad Adnan,*
- *Pan Lu,*
- *Muhammad Tahir Khan,*
- *Jiangfeng Huang &*
- *Muqing Zhang*

Sugarcane is one of the most crucial energy crops that produces high yields of sugar and lignocellulose. The cellulose crystallinity index (CrI) and lignin are the two kinds of key cell wall features that account for lignocellulose saccharification. Therefore, high-throughput screening of sugarcane germplasm with excellent cell wall features is considered a promising strategy to enhance bagasse digestibility.

Published: 29 May 2021

> **Link**

Non-Wood for Paper Making: A Review

- *Siti Amira Othman*
- *Nur Sakinah Mahazir*

In this paper, banana fibre and pineapple fibre was used to replace wood fibre for paper making. Banana and pineapple fibre also mixed with waste paper and sugarcane bagasse in different ratios and give different analysis. The samples were analysis in their absorbency, tensile strength, bursting strength, abrasion and crease recovery.

Published: 1 June 2021

> Link



Does the Partial Raw Cane System Present Possibilities to Increase Sugarcane Field Longevity in Clayey Soil?

- *Lucas Augusto de Assis Moraes,*
- *Cristiane De Conti Medina,*
- *Thadeu Rodrigues De Melo,*
- *Thiago Ometto Zorzenoni,*
- *Jaime Higino Dos Santos Junior &*
- *Joao Tavares Filho*

The partial raw sugarcane system (SCCP) involves the partial removal of sugarcane straw for the production of bioenergy. Our objective was to verify the possibility of increasing the longevity of the cane field in the partial cane system, based on evaluations of soil fertility, plant nutrient content, and productivity.

Published: 28 May 2021

> Link



Silicon enhancement for endorsement of *Xanthomonas albilineans* infection in sugarcane

- *Ding-kai Hong*
- *Javed Talha*
- *Yang Yao*
- *Zhi-yuan Zou*
- *Hua-ying Fu*
- *San-ji Gao*
- *Yuan Xie*
- *Jin-da Wang*

To be published: 1 September 2021

> Link



Process control and sugar crystallization

- *Steven Murphy*
- *Leonie Wong*

Published: 3 June 2021

> Link



Effective quarantine: Interception of sugarcane diseases in the last 20 years has protected the industry from exotic threats

- *Nicole Thompson*
- *Elizabeth Wilson*

Published: 2 June 2021

> Link



Small-scale growers and contractors: Understanding the working relationship to improve the quality of sugarcane delivered

- *S Dube*
- *RJ Nicholson*

Published: 1 June 2021

> Link



Comparison of beet and sugarcane production methods and opportunities for dual production

- *P Avram-Waganoff*
- *B. Morgenroth*

Published: 5 May 2021

> Link



Events

30th ISO International Seminar

International Sugar Organization

23–24 November 2021

East Wintergarden, Canary Wharf, London

Link

79th STAI Annual Convention and International Sugar Expo 2021

The Sugar Technologists' Association of India (STAI)

Last week of September 2021

Online

Link

4th Agricultural Engineering, Agronomy and Extension Workshop

International Society of Sugar Cane Technologists, CENICAÑA & TECNICAÑA

22 – 25 November 2021

Cali, Colombia

Link

International Conference on Sugarcane Research

Sugarcane for Sugar and Beyond (CaneCon2021)

ICAR- Sugarcane Breeding Institute Coimbatore & Society for Sugarcane Research and Development (SSRD)

19–22 June 2021

Online / Coimbatore, Tamil Nadu, India

Link

51st ASSCT Annual Florida and Louisiana Joint Meeting

American Society of Sugar Cane Technologists

14–16 June 2021

The Sheraton New Orleans, New Orleans, Louisiana, USA

Link

58th Council Session of the International Sugar Organization - Colombia

International Sugar Organization (ISO)

14-18 June 2021

Innovation, diversification and sustainability in the sugarcane agroindustry (virtual) workshop: the Colombian case

Link