



NEWS FROM WABCG

EDITORIAL

Our family will soon be together again: more than 40 growers from 12 countries have already registered for our June meeting in Fargo, USA!



I look forward to welcoming you in a few weeks to share our views on our sector, whether we grow sugar cane or beets, whether we are in Africa, Oceania, Asia, Europe or the Americas!

The first day will allow my association, the Red River Valley Sugar Beet Growers

Association, to present to you the situation in our fields and in our country, including the market: in the United States and in the world. The second day will be dedicated to climate change: how we, as farmers, are adapting to new climatic conditions and how we can reduce our emissions. We will also share our experiences in communicating our views - within our industry and with civil society. **This is the core objective of the WABCG: to exchange views, share knowledge, learn from each other!**

Finally, we will conclude our work with a field visit, and Jill and I are already preparing our farm for this!

You still have a few days to register if you have not already done so: do not hesitate to contact our secretariat!

**David Thompson, President
WABCG**

APRIL 2024

NEWS FROM MOROCCO

Faced with the challenges posed by climate change, which is impacting Moroccan agriculture and, by extension, sugar production, the teams dedicated to research and development have set about promoting an agriculture capable of coping with these changes by relying on artificial intelligence to introduce innovative, digital approaches to the management of sugar crops.



The innovation strategy focuses on three main areas: optimising the use of irrigation water, optimising resources (fertilisers and pesticides) and real-time crop monitoring.

Development of a platform based on AI, satellite images, drones and intelligent sensors.

The adoption of artificial intelligence, coupled with the use of drones equipped with cameras, is radically transforming the management of sugar crops, marking a decisive departure from conventional farming methods. This modern approach, incorporating innovative technologies, aims to optimise farming processes, offering farmers greater autonomy and effectively meeting the challenges of food security.

- *Detecting the number of plant per field*

Thanks to the use of artificial intelligence and drone imagery, it is possible to carry out a detailed diagnosis of the plots just after sowing, in order to check that the operation complies with the planned objectives and to rigorously monitor any sowing anomalies from the earliest stages. This diagnosis, carried out 12 days after sowing, a stage in the growth that will enable corrections to be made such as re-sowing if any anomalies are detected. The solution offers invaluable advantages such as number of plant per field, by location within the plot, early detection of plots with low



stands and immediate action plan (reseeding, turning over, etc), confirmation of the main component for estimating yield, improved plot management with greater efficiency for both the agronomist and the farmer, saves time in managing problem plots and provides immediate and effective action throughout the sugar beet season.

- *Identification of weeds and diseases*

Advanced algorithms have been developed to identify weed species and plant diseases at an early stage, enabling real-time intervention. The algorithm can distinguish between sugar beet and weeds at the early stage and between healthy beet and diseased beet at the early stage of diseases such as cercosporiose, phoma and traces of casside damage. Various critical weed species were identified by the AI, including thistle, mustard, mallow, dill, poppy and others. A drone equipped with a high-performance camera that will generate high-resolution images is being used to diagnose the plots. Ultimately, this project will make it possible to use drone imagery to automatically detect the presence and type of weeds and diseases, generate weed and disease presence maps for the plots overflown, carry out localised, made-to-measure treatments using drones, by developing formulas, customised herbicide treatments for each plot based on the presence or absence of certain weeds.

- *Phytosanitary treatment by drone*

Drone technology has been specifically adapted to the requirements of sugar beet growing for the application of crop protection products. A development programme dedicated to adjusting drone spraying and establishing ideal flight conditions has been implemented in a pilot project, to avoid any risk of phototoxicity to plants. This approach made it possible to develop customised herbicide treatment formulas, based on the diagnostics carried out. It has resulted in optimised applications of herbicides, selected according to the weed species identified, while reducing costs for farmers and minimising environmental im-

fact. In addition, it ensures full traceability of treatments and facilitates access to plots during rainy periods without soil compaction. This project will enable farmers to improve their productivity and profitability while reducing the impact on the environment. The results obtained are as follows : reduction in herbicide inputs, 30% reduction in costs, improved performance, farmer satisfaction and protection of the environment

Intelligent irrigation control

Through the use of wireless sensors, crucial information on humidity, soil temperature and sugar beet root growth is collected throughout the season. This artificial intelligence-led approach makes it possible to: communicate irrigation requirements, weather forecasts, extreme weather alerts and advice, and water deficit alerts. An irrigation schedule incorporating the plant's water requirements can be issued by the solution in real time. But also to monitor sugar beet growth in parallel with their water requirements.

Development prospects

As part of the ongoing programme to improve productivity in the sugar industry and promote sustainable development, an intelligent plot concept (connected plot 4.0) is currently being developed. It will be equipped with innovative, integrated precision farming solutions that will enable data to be collected and monitored remotely.

**Leïla Dziri, Director of innovation, R&D
FIMASUCRE, Morocco**



NEWS FROM KENYA

WHITE CAPER BUTTERFLIES EFFECT

The skies of Kenya were recently adorned with white butterflies, marking a remarkable phenomenon as African White Caper butterflies migrated through the region. This event sparked curiosity and discussions about its implications.

Occurring during Kenya's dry season, many, particularly farmers, linked the presence of these butterflies to the onset of drought. However, it was later clarified by entomologist that there is no need for concern as these insects do not pose any threat to crops. They play a crucial role in maintaining the ecosystem balance. *(See image below. Source: Bernadette Simpson)*



CLIMATE CHANGE

As per the predictions from the Meteorological Department, this year's long rains are projected to bring rainfall levels close to the average nationwide. Consequently, farmers across most regions are readying their fields for planting, aligning with the expected onset of the long rains, which are anticipated to persist until May. This early commencement of rainfall disrupts the usual planting season for crops, as the altered rain pattern poses challenges for farmers in determining optimal planting times.



SINGLE EYE BUD TECHNOLOGY

Kenya is moving away from traditional methods of planting sugarcane to embrace innovative single-eye bud chip technology with the goal of enhancing seed cane availability. This transition is intended to speed up multiplication rates and reduce initial production expenses highlighting the Directorate's ongoing commitment to promoting this progressive agricultural technique. Trials of the single-eye bud approach were monitored, yielding promising results, underscoring the importance of encouraging sugarcane farmers to adopt this method.

BIOCHAR PROJECT

The Sugar Directorate has initiated a biochar project aimed at enhancing soil fertility for sugarcane farmers. This project involves the development of soil-specific bio-fertilizer utilizing bio-char, bio-fertilizer, and microbial inoculant to rejuvenate degraded soils in sugarcane farming. The bio-fertilizer and inoculant will be created by adding value to industrial wastes such as bagasse and filter mud. This will go a long way in reducing production costs and rejuvenating the degraded nutrient-deficient soil.

SUGAR BILL 2022

Reforms are underway with recent passing of the above bill at the National Assembly successfully now awaiting concurrence from the Senate before the President can give his assent, making it law.

The Sugar Bill suggests implementing a sugar development levy applicable to both domestically produced and imported sugar, aimed at bolstering the local sugar industry.

To enhance sugar productivity, the bill also recommends establishing the Kenya Sugar Research Training Institute, tasked with coordinating and overseeing research endeavors related to sugar, its by-products, and associated technologies.

**Beatrice Odiwa, Assistant Director
Technical and Advisory Services Department,
Sugar Directorate, Kenya**



Single eye-bud plantlets at Chemelil Sugar Company
(Photo taken by Sugar Directorate)



World Association of
Beet and Cane Growers



NEWS FROM AUSTRALIA

The Australian sugarcane industry is on the cusp of what feels like a new and exciting era.

While there are many significant hurdles to clear before that era can begin in earnest, there is also a lot of activity and innovation happening right now.

New companies and investors are entering the industry with plans for products that could revolutionise the sector.

In Queensland, where 95% of Australia's cane is grown, we are in an election year and there is a lot of buzz about emission reduction targets and how these can be achieved.

There could be good news for the nation's sugarcane growers on this front.

Research, commissioned by CANEGROWERS, assessed the emissions intensity for cane farms operating consistently with industry's best practice as described by our, Smartcane BMP program.

This was then compared to the results of a similar analysis conducted in the early 2000s.

The research found that growers using best practice would have reduced their emissions by 30% on 2005 levels.

With over 40% of the state's cane-growing area already Smartcane BMP accredited, and more growers signing up to the program every week, we are already making significant contribution to Queensland's 2030 emissions reduction ambition.

But possibly even more exciting than this, is how the sugarcane industry could grow and expand to help other sectors, and the nation itself, achieve further emissions reduction.

There is a lot of interest currently in bioenergy projects, with sugarcane as a feedstock.

Whether it's green electricity, ethanol, biodiesel, or sustainable aviation fuel,

government, investors, and industry are coming together to establish pilot projects and explore the feasibility of turning Australia's sugarcane industry into a central player in the nation's burgeoning bioeconomy.



Of course, some of these ideas are not new and have even been tried before, but what is new is the drive and determination – you might even say the urgency – to make them succeed.

With the ever present and pressing need to address climate change, projects that may have been deemed too difficult

and expensive in the past, suddenly have the scientific community, government and industry working together to achieve success.

On another front, Australia is quickly establishing itself as a trusted supplier of high-quality, sustainably produced, traceable raw sugar.

Much of our success in this area also comes from the efforts of growers who have become Smartcane BMP accredited.

The program has been successfully benchmarked against other international sugar sustainability programs like Bonsucro and VIVE.



World Association of
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Working with KPMG under the Origins Platform, CANEGROWERS has also developed a way for customers to trace sustainably produced sugar right through the supply chain, from the farm to the end user.

This is opening up premium markets, where buyers are demanding sustainable sugar, and positioning Australia as a leader in this area.

Of course, it is not all good news for the Australian industry, and we still face many challenges.

Among the most serious are poor milling performance, workforce shortages, and government regulation.

Milling performance issues are nothing new, but in recent years the under-performance or some mills has seen the harvest season extend well beyond its optimal range and into the Christmas period and beyond. This causes flow-on problems for the following years' crop, while falling CCS in the late harvested cane also makes harvesting less economical.

Extending crushing periods can also cause problems with transport, as curfews are put in place for heavy vehicles traveling over the holiday season.

This issue is exacerbated by ongoing workforce shortages, both in the milling and harvesting sector.

The harvesting sector is by far the worst affected of the two, with harvest, haulout and truck drivers very hard to find in many areas.

With the 2024 harvest just a few months away, CANEGROWERS is undertaking a campaign to attract more workers to the industry.

Transport is an area where regulation could cause problems for the industry in the years ahead.

Stricter enforcement of regulations around truck loads and spillage on roads could become a significant issue for the harvesting sector and, through chain of responsibility laws, for growers and millers too.

The use of certain chemicals central to sugarcane farming in Australia is also under review and our research body, Sugar Research Australia, is working to find alternatives.

As for the crop itself, despite some flooding damage in the far north of the state following ex-Tropical Cyclone Jasper in December, the crop is looking extremely healthy and vibrant.

The forecast El Nino weather cycle didn't arrive and, in fact, the summer has been wetter than normal. This hot, wet weather has mills predicting a bumper crop in 2024.

With a little luck, a lot of hard work, and some dry weather, 2024 could turn out to be one of our best seasons for a while.

**Owen Menkens, Chair
CANEGROWERS, Australia**



Save the dates!

WABCG Council

18-21 June 2024

Fargo, USA

Registration is open!

WABCG/ISO Consultation

25 November 2024

London, United-Kingdom



NEWS FROM JAPAN

Regarding sugarbeet in Japan, 2023, yield is 66.61t/ha which is more than the past seven years. On the other hands, sugar content is the lowest ever recorded (13.7) since started the methods which decided the sugar beet price by the rate of sugar content in the beet root in 1986 because happen a lot of *Cercospora beticola*, one of the mainly diseases of sugar beet. The reason for this is that the average temperature from June to August has been the highest ever since statistics began in 1946.



We are introducing new variety having resistance to *Cercospora beticola*, but rising average temperature by global warming will make more *Cercospora beticola* and gives significant impact to productivity. There are restrictions on the pesticides used to control *Cercospora beticola* because the occurrence of resistant bacteria has been confirmed.

The pesticides company is creating new product, but it is estimated taking time until there are sold in market. Refer to the good practice of spraying, we are researching and surveying about effective control. We

can't control nature environment for instance typhoon, heavy rain and heatwave in the world including Japan. For reducing risks about growing sugar beet at all, we will grapple with stable produce in cooperation with related organizations.

Also, planted area significantly reduced in Japan influenced by nation policy to reduce production and soaring prices of chemical fertilizer and pesticides. And then, the planted area is expected to decrease further by 2024.

Compared to only ten years ago, the number of producers decreased by about 20%, and the sugar beet planted area decreased by about 12%. In this tough situation, we will work on securing planted area to protect rotation of crops and local economy with local and related organizations.

Soshi Kawasaki
Sugar Beet Production Division
Sugar Beet & Seed Section
HOKUREN, Japan

