

Mpho brings with him an in-depth understanding of the potential of South Africa's economic opportunities, as well as our social realities and the challenges they represent.

Makwana is currently Independent Non-Executive Chairman of JSE-listed ArcelorMittal South Africa Limited and also serves as an Independent Non-Executive Director on the boards of other JSE listed companies such as Adcock Ingram Holdings Ltd (AIHLF.PK), eNX Group Limited (ENX:JNB), Nedbank Group Ltd (NDBKF.PK), and Sephaku Holdings Limited (SEP.J). He further serves as Chairman of The Mining Indaba Advisory Board, Epitome Investments (Pty) Ltd, New Nishati Investments (Pty) Ltd, Gibela Rail RF (Pty) Ltd and the Boardroom Alliance (Pty) Ltd - which holds the sub-Saharan trading license for executive search firm, Heidrick & Struggles. He is also a Non-Executive Director of BioTherm Energy (PTY) Ltd; one South Africa's foremost renewable energy companies.

"I have long admired the Illovo Group's African business model and approach to living its commitment to the transformation of agriculture across the continent. I strongly endorse the common values shared throughout the Group, and closer to home, its active support of the South African Government's social and economic development agenda. It will be an honour to become Chairman of Illovo SA, and I look forward to being a part of the delivery of its strategy for continuing to deliver on ambitious growth and diversification opportunities," said Makwana.

A business leader with a caring heart, Makwana volunteers as a member of the Nelson Mandela Children's Hospital's Fundraising Committee and is a Trustee on the Board of the Nelson Mandela Children's Fund. In April 2016, he was one of 14 trustees appointed by former President Jacob Zuma to serve as a Trustee on the Board of Trustees of Brand South Africa. During the 2010 FIFA World Cup, Mpho served as interim Chairman and CEO (3rd Quarter of 2009), and as Chairman of Eskom Holdings Limited SOC from 10 June 2010 until his term as Director concluded on 27 June 2011.

He holds a Bachelor of Administration (B.Admin) in Public Administration and Public Science from the University of Zululand and a B.Admin in Public Management from the University of Pretoria. He also received an Executive Development Programme Certificate from the Kellogg School of Management and a Post-Graduate Diploma in Retail Management from the University of Stirling.

Chris Fitz-Gerald is Group Communications Manager at ILLOVO SUGAR AFRICA (PTY) LTD

PUREST™ UPDATE NOW AVAILABLE!

Riekert van Heerden

During 2016, SASRI released the **PurEst™** App on both iOS and Android platforms. **PurEst™** is a mobile application tool that allows the grower to rapidly estimate crop maturity (whole-stalk juice purity) to make ripening decisions on the farm. **PurEst™** can also assist with drying-off and harvesting decisions by estimating stalk moisture % and RV% so that growers can manage and prioritise fields that are ready for harvest.

An update of **PurEst™** has just been released on both iOS and Android platforms. The new features are:

- **English, isiZulu and Afrikaans language versions.** After installation the user can seamlessly change between the three language versions.
- **Ability to edit details** (e.g. variety, field number, crop age and sampling date) in saved records.
- **Ability to export saved records selectively** (e.g. only records within a certain date range or from one farm).
- **The option to estimate quality parameters from samples consisting of more than three stalks per sugarcane field.** The user can now add data fields for additional stalks on the calculator page of the App (instead of the original three stalks only).
- **Ability to detect immaturity in the top third of stalks** even if estimated juice purity is greater than 85% (the threshold above which chemical ripening is usually not recommended). Under these conditions the user will be made aware of the possibility to apply chemical ripeners, especially if growth conditions are such that a further decline in crop maturity can be expected (e.g. after very good rainfall or after winter).

If you already have **PurEst™** installed on your phone, ensure that you update to the latest version.

For new users, download the app via the Apple iStore or Google Play Store.



Chemical ripeners can provide one of the quickest returns on investment during periods of the milling season when cane quality is low.

Research outcomes

SASRI research outcomes related to chemical ripeners over the past few years:

- Demonstrated that not all varieties respond the same to chemical ripeners.
- Ripener response has been established for new varieties.
- Any negative residual effects of chemical ripener application have been evaluated.
- Cane quality and yield responses of commercial varieties have been established.
- Economic benefits have been calculated.
- Field trials led to the registration of a new ripener, Moddus.

Benefits of ripeners

Chemical ripeners can provide one of the quickest returns on investment during periods of the milling season when cane quality is low. When conditions are optimal for their use, increases in RV yields of more than 1.5 tons/ha can be expected from chemically-ripened sugarcane. Probably the most important consideration when planning to spray chemical ripeners is crop vigour and associated crop maturity. It is of paramount importance that spraying of chemical ripeners takes place when the cane is growing vigorously and crop maturity is low.

How do chemical ripeners work?

- During photosynthesis in the green leaves, carbon dioxide is converted to sucrose, which provides energy for the plant.
- Not all the sucrose is available for storage in the stalk, because stalk elongation, the formation of new leaves, and maintenance of the rest of the plant requires energy.
- Sucrose is broken down to its component sugars, glucose and fructose, and then used during respiration to fuel these growth and maintenance processes.
- The portion of sucrose not used for these processes is stored in the stalk.
- In vigorously growing sugarcane, where stalk elongation and new leaf formation is rapid, the portion of sucrose for storage is therefore relatively small. This is the reason why periods of vigorous growth during summer, or resumption of vigorous growth in spring, cause a decline in cane quality.
- Chemical ripeners improve cane quality by inhibiting new growth shortly before harvest, thereby decreasing the demand for sucrose as an energy source and increasing sucrose storage in the stalk.

Figure showing how chemical ripeners slow down growth, thus reducing the demand for sucrose as an energy source, thereby increasing the proportion of sucrose that can be stored in the stalk.

Riekert van Heerden is Senior Scientist: Sugarcane Physiology at SASRI.

