



November 2024

[View Articles Online](#)

This PDF was printed from the SASRI website.
To view the original layout, please click on the image above



Director's Message

Dr Shadrack Moephuli *(Director)*

Published: 18th Nov 2024

Greetings to all our stakeholders as we enter the summer season that coincides with the rainfall in many of our sugarcane growing areas. Under such conditions, ground cover becomes important, particularly for recently harvested fields that may be exposed to water runoff, with potential soil erosion. Soil condition and health are critical to sustainable sugarcane production, hence the need to ensure the soils are not entirely exposed to excessive water runoff.

Our theme in this edition is ***“Ensuring Good Ratoonability”***.

We have chosen this theme as it relates to the choice of variety planted at any time. The ability of a sugarcane stalk (culm) to generate new culms during subsequent growing seasons after harvesting is known as ratooning. Different varieties express this ratooning ability in various ways, which has implications for further planting and yields. The choice of an appropriate variety becomes important for sustainable production.

In as much as soil health is critical for good sugarcane yields, weed management is important for soil crop nutrient flow. Agriculture production has typically been secured through effective weed management, often with agrochemical applications. In this edition we examine the sustainable use of agrochemicals, with a focus on the impending changes to regulations pertaining to certain chemicals.

As indicated above, variety selection is essential for successful and sustainable sugarcane production. Such knowledge requires the appropriate and targeted education and training, particularly for small-scale and land reform growers. Hence SASRI has been running modular courses that address our theme of ensuring good ratoonability.

This year also coincides with the celebration of many years of services by various SASRI laboratories. We celebrate the establishment and delivery of the Fertiliser Advisory Service (FAS) 70 years ago. In addition, SASRI established and provided sugarcane biosecurity using quarantine methods and facility in the last 40 years. These services have been instrumental for sustainable production of sugarcane in South Africa for many years.

We hope that as you read the various articles within this publication, the information and knowledge will enable sustainable production and better productivity, with better management practices.

At this time of the year, we wish all our sugarcane stakeholders a wonderful summer season and happy holidays.



Topical Tips

Ruth Rhodes (Extension Specialist, Zululand South) and Jan Erasmus (Extension Specialist, Malelane)

Published: 18th Nov 2024

TOPICAL TIPS

With the welcome rains that have fallen across much of the industry, growers have been busy planting, fertilising, fighting weeds, and even harvesting in the rain! Here are a few things to keep in mind for November and December.

Final harvests and carryover decisions

- If your local mill has not yet closed, be sure to get your crop off before it does so. Avoid a situation where you will need to manage unplanned carryover fields.
- Contact your local Pest & Disease team to inspect your carryover fields, and harvest any fields that may become eldana problems during the off season. Don't be caught with eldana-infested cane in the off-crop!
- Any fields with > 20% of the stalks having flowered, should not be carried over if possible.

Weed Control

- Your farm may soon be closing for year-end break. Pay attention to weed control, especially on recently planted/ratooning fields. Don't give your January self a headache with tall, hard-to-control weeds!
- Follow-up on problem weeds, particularly creeping grasses.
- In longer-cycle cane, monitor winter weeds in last season's cane.

Prepare your replant fields for 2025

- Start planning your replant fields:
 - Spray off your fields when the cane has reach knee height.
 - Remember that your 2025 farm nursery fields need to be free of volunteers for 6-9 months – if you're going to replant in Sept 2025, **you need to have killed your last volunteer by January 2025!**
- For commercial replant fields, plan for a **volunteer-free fallow** of at least three months.
- Check on the effectiveness of chemical stool eradication. In sugarcane, nobody loves a volunteer.
- In high mosaic risk areas (e.g. KZN midlands), don't plant between 1 November and 1 February.

Pests & Diseases

- Use manual or chemical roging to clean smut-infested fields.
- Malelane / Komati: be on the lookout for outbreaks of Black Maize Beetle, as happened in 2023. Be on the lookout and contact SASRI Biosecurity (P&D) if you have any queries.

General husbandry and maintenance

- Now is a good time to plant a summer green manure crop.
- A tour of the farm during heavy rain is the best way of observing weaknesses in field layouts and where maintenance to roads and structures is required.
- Start planning your programme for next season.
- Consider staff training: do your staff require Health & Safety supervisors' courses, or drivers' training? Contact Shukela Training Centre for more information

www.shukelatrainingcentre.co.za.





**Optimising variety selection for coastal
growers**

Optimising variety selection for coastal growers

Choosing the correct variety is one of the most important decisions for sugarcane growers, as this has an impact on profit. The choice of variety is influenced by many factors such as cutting cycle, soil type, climatic conditions, and management practices. These factors are often considered during SASRI's variety evaluations trials, which assess yield potential, pest and disease resistance, and the variety's adaptability to different growing environments.

At the RD&E workshop held earlier this year in Zululand/Umfolozi, growers raised concerns regarding the suitability of newer sugarcane varieties for shorter cutting cycles. Their observation highlighted the need for varieties that can thrive in a short cutting-cycle (12–15 months), with a preference for options beyond the traditionally long cutting-cycle varieties (15–18 months).

SASRI has already released six varieties—N64, N67, N72, N76, N77, and N79—that are specifically suited to short-cycle coastal growing conditions. While historically dominant varieties like N55, N58, and N59 were bred for long-cycle conditions, they also show good adaptability on short cutting-cycle in the coastal region. Over and above these varieties, a new variety, N82, will be released for a longer cutting cycle. One of its parents is N58, which is currently doing well in both short and long cutting cycle, with good eldana resistance.

N82 is recommended for planting and harvesting throughout the year in coastal regions, with an optimal harvest window of 15 to 18 months. It offers several advantages, including high cane and Recoverable Value (RV) yields, excellent ratooning ability, and broad adaptability across various soil types.

SASRI continues to investigate the performance of sugarcane varieties under different cutting cycles. Variety evaluation (VE) trials have been established at UVS farms in Empangeni to assess performances of both short and long cutting-cycle coastal varieties. The results from these trials will help to better understand the adaptability of different varieties to various cutting

cycles. Findings from the trials will be communicated through Extension newsletters, Variety Grower days, and local grower meetings to keep the farming community informed.

With ongoing trials and continuous feedback from the farming community, SASRI remains committed to providing up-to-date recommendations, ensuring that farmers have the best variety options for their specific needs. Growers are encouraged to stay updated through SASRI's communication platforms, which will provide valuable insights from the latest variety trials and recommendations for different regions.



Improving your fertiliser use

Published: 18th Nov 2024

Improving your fertiliser use

Fertiliser prices have reached record highs. Under these conditions, it is important to adopt practices that improve the effectiveness of your fertiliser investment.

Sampling and testing

Soil and leaf testing will help you gauge which nutrients are in excess, adequate or in short supply, as well as highlighting potentially crop-limiting conditions. Soil and leaf testing are essential in determining the nutrient requirements for your crop and for evaluating the success of your nutrition programme. Ensure proper sampling protocols are followed to ensure sample representation.

Soil health

Remove or manage crop limiting conditions such as acidity, compaction, waterlogging and salinity and sodicity as these reduce the efficiency of fertiliser use.



Constraints such as acidity (left) or waterlogging (right) will greatly reduce the ability of the crop to utilise applied nutrients.

Realistic target yields

Providing realistic target yield estimates will improve the fertiliser recommendation you receive from Fertiliser Advisory Service (FAS).

Using the 4R's to better use nutrients

The 4R's refer to the **R**ight source (type), rate, placement and timing of application of fertilisers.

By considering all these factors to optimise nutrient use by the crop, it may be possible to refine your fertiliser rates and find savings through efficient use.

Right Source: Select fertilisers that reduce the risk of losses in a given situation, and that will supply the crop with the required nutrients.

Right Rate: Under-and overapplication of nutrients can lead to yield loss, unnecessary costs and environmental pollution.

Right Placement: This can affect how easily the crop can access and use the applied nutrients, as well as the risk of losses.

Right Timing: Coinciding nutrient application with periods of crop need improves uptake by the crop while reducing losses.

When could you consider adjusting or reducing fertiliser rates?

- If you routinely apply excessively high rates “just-in-case” or if soil tests indicate adequate phosphorus (P) and Potassium (K), you are very unlikely to get a crop response to the extra application.
- If you routinely apply a blend containing nutrients not required in that crop cycle – switch to an alternative source that better matches requirements.
- If the previous seasons leaf testing indicates excessive uptake of a nutrient, consider cutting back on the following seasons application rate.
- If the previous seasons crop underperformed, you may have residual nutrients left in the soil and reductions are often possible (mainly P and K).
- After accounting for all nutrient inputs (e.g. filtercake, manures) and by adjusting your conventional fertiliser application rates accordingly.
- In acidic soils that are limed, you can reduce Nitrogen (N) application in the year or two after liming due to improved N mineralisation.
- In high organic matter soils (>2% OM), consider reducing N rates on replant cycles.
- Cut N rates in plant crops which were preceded by legume crops.
- Try maintaining a balance in nutrient supply (even if applied at lower rates) rather than dropping one nutrient in favour of another.
- In the short term (one or two seasons), consider reducing or cutting P application in ratoon crops where soil tests indicate sufficient P levels or large amounts of P were applied in the preceding seasons.
- Your target yield given during sample submission was higher than is likely for the coming season.

Use monitor farms for evaluation

Monitor plots can be a useful tool to evaluate adjustments to your nutrition programme, in particular N. In the picture below, by applying a high rate to test plots on the left, it became apparent within a short period of time that the crop would respond to extra N. If no or small

differences appear, it indicates that additional N is not likely to improve yields. Where these tests are done before the cane reaches the “out-of-hand” stage, it increases the opportunity to more easily apply an additional amount of fertiliser if required.



This article by Dr Louis Titshall (former SASRI Senior Soil Scientist) and Rowan Stranack (former SASRI Extension and Biorisk Manager) first appeared in The Link: September 2022



Empowering sustainable small-scale sugarcane farming

Nqobile Nxumalo (Agricultural Liaison Officer)

Empowering sustainable small-scale sugarcane farming

SASRI collaborates with the KwaZulu-Natal Department of Agriculture and Rural Development (DARD) under the Extension Venture Agreement (EVA). This partnership is dedicated to promoting sustainable sugarcane farming by developing growers' skills, encouraging Best Management Practices, and delivering expert advice and relevant technologies. EVA's mission is to empower rural communities to achieve sustainable, profitable farming.

One of EVA's priorities is to conduct small-scale grower (SSG) and land-reform grower (LRG) Modular Courses in each mill area, focusing on different themes each year based on grower needs and feedback. For 2024, the theme was "Ensuring Good Ratoonability." From August 13 to September 19, SASRI SSG/LRG extension team and DARD extension personnel engaged with over 650 growers across various communities in the sugar belt, sharing knowledge and practical advice on topics like variety selection, seedcane, planting, weed control, soil nutrition, and cane quality.

By bringing the EVA programme directly to rural communities, using local halls as venues, more growers can participate in and benefit from the resources shared. DARD's Agricultural Advisors Lungisile Mkhungo, Sindisiwa Nzimande, Gugu Mnyandu, Bheki Mathe and Goodenough Mdungu, played a crucial role in planning and facilitating these sessions, and participated in presentations in several communities.

The SSG/LRG Modular Courses have become an essential platform for keeping growers informed about advancements, new techniques, and industry updates. These sessions ensure continuous communication between growers and stakeholders, enabling even the most remote growers to access SASRI research, and to contribute to shaping the following year's theme. We look forward to welcoming more growers next year.



For information on upcoming sessions in your area, please contact your local Extension Officer or the SASRI Agricultural Liaison Officer at 071 850 7292 / 031 508 7511.

Table 1: The different Mill areas where the 2024 Modular courses were held with the number of attendees.

Mill Area	Venue	Number of Attendees
<u>Komatipoort</u>	<u>Magudu Energy Centre</u>	31
	<u>Figtree C&D Energy Centre</u>	70
<u>Malelane</u>	<u>Khanyangwane Energy Centre</u>	30
<u>Amatikulu</u>	<u>Macambini</u>	43
	<u>Obanieni</u>	36
<u>Entumeni</u>	<u>Mbongolwane</u>	73
<u>Felixton</u>	<u>Sgisi</u>	34
<u>Maidstone</u>	<u>Ndwedwe Base Mission</u>	28
<u>Gledhow</u>	<u>Glendale ZG Hall</u>	35
<u>Darnall</u>	<u>Darnall Country Club</u>	20
<u>Noodsberg</u>	<u>Swayimane</u>	75
<u>Eston</u>	<u>Ezimwini (KwaMahleka)</u>	59
<u>uMzimkhulu</u>	<u>KwaMbotho Community Hall</u>	47
<u>Sezela</u>	<u>Mnini-Mfume Tribal Authority</u>	69



SASRI Quarantine Glasshouse celebrates 40 years of excellence

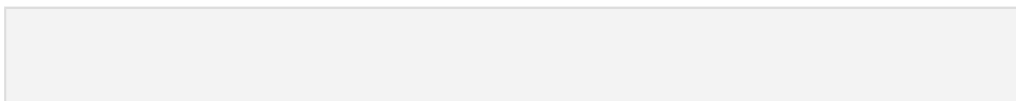
Aimee Koch (Quarantine Pathologist)

SASRI Quarantine Glasshouse celebrates 40 years of excellence

The SASRI Quarantine Glasshouse marked its 40th anniversary with a celebratory gathering that included tea, cake, and a tour of the facility recently. Roger Bailey (retired Assistant Director, who was key in the design of the glasshouse from 1975), and Solen Subramoney (former RSD and Quarantine supervisor for over 30 years) attended the event. SASRI Director, Dr Shadrack Moephuli, opened the proceedings, emphasising the critical role of quarantine facilities in supporting food security and crop preservation. He highlighted SASRI's commitment to maintaining a world-class quarantine facility to safeguard South Africa's sugar industry and enable the secure exchange of sugarcane varieties globally to strengthen the gene pool.

Current Quarantine Pathologist, Aimee Koch, presented an overview of the facility's history, discussing key physical changes, equipment upgrades, and contributions from the dedicated quarantine staff over the years. Special tributes were paid to the late Tania van Antwerpen (Quarantine Pathologist for over 20 years and the late Patrick Majozi (Quarantine assistant) for their significant contributions to Quarantine. Roger Bailey and Solen Subramoney shared memorable moments from their time at the facility, while Dr Sumita Ramgareeb (Breeding and Field Resource Unit Manager) acknowledged advancements in quarantine tissue culture, specifically the apical meristem technique used to eliminate diseases from imported and exported sugarcane material. This protocol has become standard across Quarantine, Pathology, Biotechnology, and the NovaCane® facility.

The honor of cutting the anniversary cake—designed to resemble the essential disinfecting shoe bath—was given to Roger Bailey. After enjoying cake and tea, attendees visited the glasshouse to view the updates described in the presentation. In recent years, the facility has undergone major refurbishment, including resurfacing of floors and walls in all 10 cubicles with a four-layer resin, crucial for meeting stringent hygiene standards. SASRI and SASA were thanked for their continuous support in ensuring the glasshouse operates at optimal efficiency. The event concluded with a warm appreciation for everyone who has contributed to Quarantine, past and present, over the past 40 years.





Quarantine celebrating the 40th anniversary with a cake cutting.



Changes in weed control chemicals

Dr Stuart Rutherford (Principal Scientist: Integrated Pest Management) and Kalisha Naicker (Publications Officer)

Changes in weed control chemicals

As sugarcane production continues to evolve, growers face new challenges in managing weeds and cane eradication. With the potential phasing-out of certain herbicides, such as Paraquat, and continuing health and environmental concerns surrounding glyphosate, many are looking for alternatives.

Since March 2021, regulatory bodies have focused on agricultural chemicals linked to serious health risks. Starting June 1, 2024, products containing active ingredients classified as carcinogenic, mutagenic, or toxic to reproduction will no longer receive approval. Some herbicide producers are pushing for temporary extensions, but active ingredients like glufosinate-ammonium and halosulfuron-methyl will be unavailable by mid-2025.

Glyphosate is currently approved as an active substance in the EU until 15 December 2033 and will remain available in South Africa for now. Alternatives like imazapyr and fluzifop-butyl are registered for cane eradication and volunteer control. Paraquat's future is uncertain, with a potential ban looming due to safety concerns.

Growers can stay informed through tools like the [SASRI Herbicide Selector](#), which helps identify the most suitable chemicals for weed management in sugarcane.





Celebrating 70 years of SASRI's Fertiliser Advisory Service (FAS)

Jan Meyer (Private Consultant and former SASRI Soil Chemist)

Published: 18th Nov 2024

Celebrating 70 years of SASRI's Fertiliser Advisory Service (FAS)

This year marks 70 years since SASRI's Fertiliser Advisory Service (FAS) began providing soil and leaf testing services to sugarcane growers in South Africa. FAS has become an internationally respected agricultural laboratory, crucial to sustainable sugarcane production through scientifically backed fertiliser recommendations.



The service's origins trace back to early concerns in the sugar industry regarding soil fertility. Recognising the need for more precise fertilisation, SASRI, then known as the South African Sugarcane Experiment Station, established a laboratory in 1954 in Briardene to address these issues. This lab initially handled 300 samples per week, analysing soil, compost, and water for nutrients like pH, phosphorus, potassium, calcium, and magnesium. Soon after, the service developed a reliable standardised soil sampling procedure in 1959, led by the resident soil scientist, Dr Bernard "Ted" Beater, who also who designed the Mount Edgecombe, bicycle-handled soil sample auger, fitted with a

bag.

Another important milestone involved the development of soil and leaf threshold values for the nitrogen (N) and potassium (K) while moderating phosphorus (P) requirement of sugarcane, and the optimum fertiliser rates to apply on a commercial basis.

Throughout its history, FAS has continually advanced its methods. In 1962, it relocated to Mount Edgecombe and introduced automated analysis techniques, including atomic absorption and later NIR spectroscopy, to accelerate processes and improve accuracy. This shift enabled the lab to process a much larger volume of samples—currently around 32 000 soil samples annually—while maintaining rapid turnaround times.

The impact of FAS on fertiliser use has been profound. Early findings encouraged growers to use higher levels N, P and K applications, contributing to a marked yield increase from 24 to 42 tons of cane per hectare by the mid-1960s. When excessive nitrogen uses in the 1980s contributed to eldana borer outbreaks, FAS responded by adjusting its recommendations, focusing on soils' mineralisation potential to support more sustainable fertilisation across the

industry.

Today, FAS stands at the forefront of agricultural testing in South Africa. It holds ISO 9001 certification and has been provisionally recommended for ISO 17025 accreditation. Committed to maintaining high standards, FAS collaborates with Agri-Laboratory Association of Southern Africa (*AgriLASA*), where it consistently ranks among the top laboratories in South Africa.

Since 1954, yield output in the industry has more than doubled, and whilst new varieties have undoubtedly had a large impact, the improvement could not have come about without eliminating nutrient deficiency in sugarcane and overcoming Al toxicity in areas with acidic soils in the midlands and sodicity in the irrigated areas of the lowveld. FAS's remarkable achievements over the past 70 years would not have been possible without the invaluable support of SASRI's research and extension services, cultivating a legacy of optimising crop yields and promoting sustainable agriculture.

This is a shortened version of an article written by Jan Meyer for the SA Sugar Journal, July-October 2024. Download the original article [here](#).



Weather

Phillemon Sithole (*Agrometeorologist*)

Published: 18th Nov 2024

Weather

Review

The industry received near-average and well distributed rainfall in October (Figure 1). This was a welcome break from the prolonged period of below average rainfall which had persisted across most parts of the industry through autumn and winter, 2024.

The main irrigation water sources are stable therefore no water restrictions are anticipated in the immediate future.

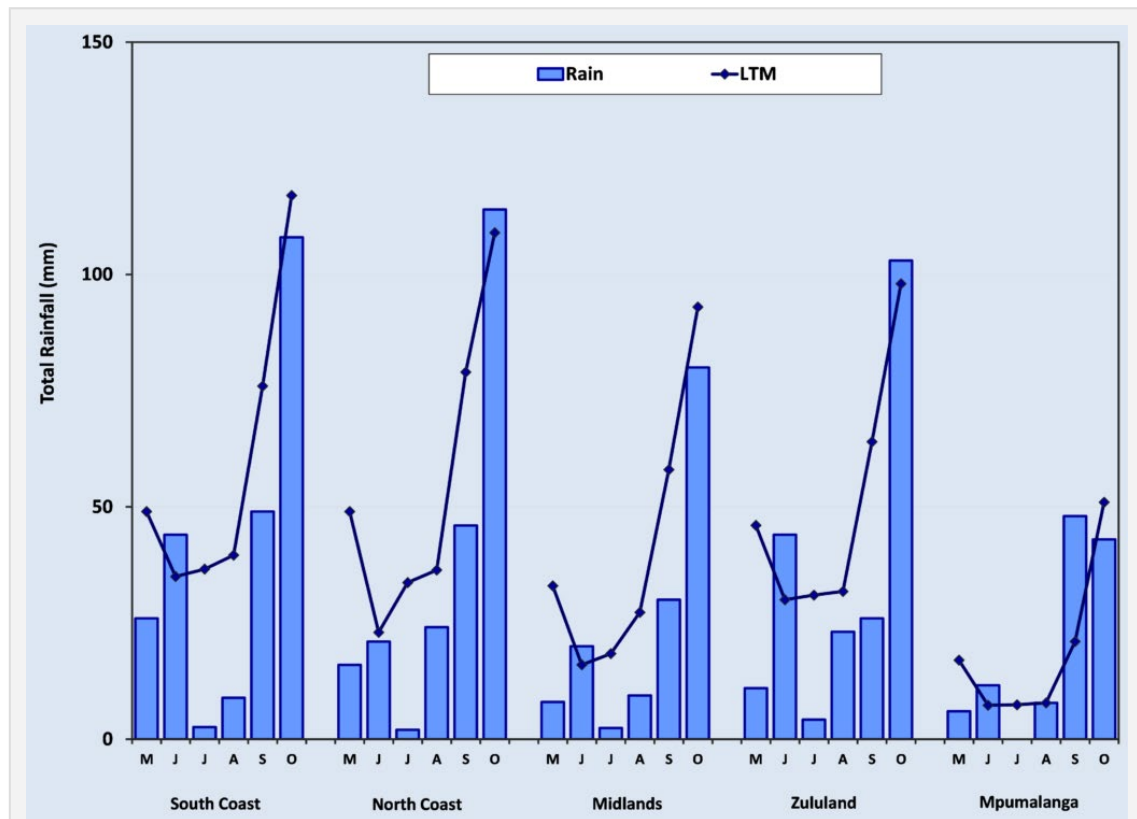


Figure 1: Regional average monthly total rainfall for May to October 2024 compared to the corresponding long-term means (LTM).

Outlook

The El Niño-Southern Oscillation (ENSO) status is still in a neutral state and is predicted to transition towards a weak La Niña state during the 2024/25 summer season, albeit with significant uncertainty in the projections (Figure 2).

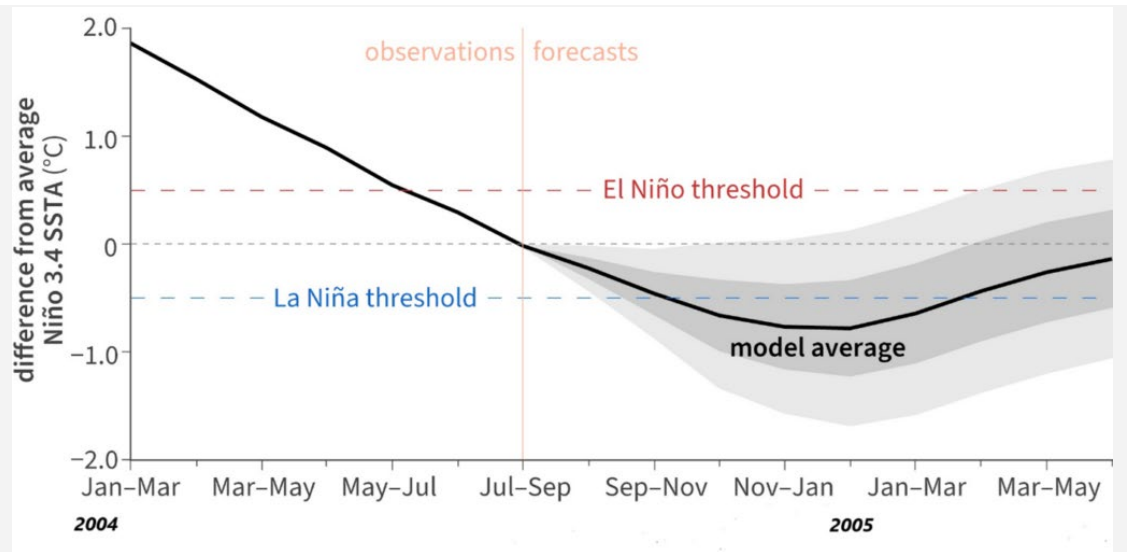


Figure 2: Monthly sea surface temperature in the Niño 3.4 region of the tropical Pacific. (source: NOAA Climate.gov)

The South African Weather Services predicts slightly above normal rainfall while the International Research Institute for Climate and the European Centre for Medium-Range Weather Forecasts both predict normal rainfall for the eastern parts of the country during the 2024/25 summer season.

Please visit the [SASRI WeatherWeb](#) for the latest industry weather reports and links to up-to-date seasonal climate forecasts.