

# SUSTAINABILITY: WHY IT MATTERS TO YOUR BUSINESS

## What is sustainability

Sustainability is increasingly becoming a necessity for organizations due to changing perspectives around the world. It is becoming more critical for organizations to address the gap between knowing and doing by embracing sustainable business practices. Sustainability can be defined as providing for present needs without compromising the ability of the future generations to meet theirs. Sustainability has three pillars: economic, environmental and social. An environmentally aware business considers more than just profits, but its impact on society and the environment as well. Such a business is sustainable because it contributes to the health of the structure within which it operates, thereby helping construct an environment in which the business can thrive.

## Why sustainability matters for the sugar industry

The Eswatini sugar industry is made of small, medium and large scale growers as well as millers who should all be sustainable in their own spheres of operation. Below are five reasons why sustainability matters for all industry players.

### Engage more business opportunities

As more businesses participate in sustainable development, more market opportunities open up. Prospects stemming from the use of renewable energy, sustainable sourcing of materials, efficient logistics, and fairer business practices are showing a good rate of profitability. Customers want to buy products that are sustainably produced. They want to support producers who follow ethical practices and respect human rights and environmental legislation amongst others. A sustainable sugar industry is an industry that has market opportunities.

### Comply with legislation

The United Nations Environmental Program (UNEP) predicts that the annual environmental cost of human activities all over the world will rise to as high as 17% of global domestic product (GDP) by 2050. On the other hand, the countries considered the biggest polluters pay only up to 2.5% of their GDP to clean up pollution and repair the damage they have done to the environment.

Based on the figures above, the world is consuming resources seven times faster than it is spending to replenish them. In response to this, there are regulations made to at least slow down the consumption rate and raise investment on pushing for corporate sustainability. It is therefore important for all members of the industry to comply with national and international legislation as part of the sustainability drive.

## Create a sustainable identity

Sugar customers value corporate sustainability. Even if your business meets regulations, customers will know if you are not doing your part for the community and environment. Compliance with rules is one thing, but observable social responsibility and evidence of continuous improvement are important parts of the sustainability journey. Sustainability certification is the ultimate goal in showing evidence of compliance with world sustainability standards and confers a sustainability “badge”. It is therefore of critical importance for the long term sustainability of the Eswatini sugar industry that sustainability certification is achieved.

## Outperform the competition

The best companies that embrace corporate sustainability are found to be more profitable, attracting more investors that help them further promote growth. According to a study done on global Fortune 1000 companies and how they fair on the sustainability performance metrics, the top half outperforms the bottom half by as high as 38%.

Sustainability drives business performance rather than bog it down and impact profitability. In an S&P 500 Climate Change Report companies that incorporate sustainable development in their core strategies outperform those who are not prioritizing sustainability efforts. The metrics in the study show that sustainable brands have

a return on equity (a measure of financial performance calculated by dividing net income by shareholders equity) of 67% better and a return on investment of 18% higher than those that do not pursue sustainability.

## Mitigate future risks

Businesses that ignore corporate sustainability rankings risk being at the bottom of the industry. A bad environmental and social reputation can lead to negative customer views that affect the success and profitability of the Eswatini Sugar Industry. Pursuing corporate sustainability helps mitigate risks that come from changes in market trends and customer demands. Among the best practices that organizations are already doing include reducing waste through recycling and upcycling, and investing in renewable energy sources.

The returns of seriously pursuing sustainability are evident in cost effective energy consumption, better sourcing of inputs, fairer labour practices, and more satisfied customers.



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**Sustainability**



# EXTENSION NEWSLETTER

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The Technical Services department of ESA conducted Crop Nutrition and Fertilizer seminars in the three sugarcane growing regions of the industry. Among the issues that were discussed during the seminars was “enhancing grower resilience and capacity to deal with the increasing costs of fertilizing material”. Information

sourced from SA Grain’s Chemical and Fertilizers May 2022 report indicated that Urea (46), MAP (33) and KCl (50) prices increased by 139%, 102% and 179%, respectively,

year on year, as at May 2022. One of the suggestions discussed on

## 4R nutrient stewardship

Fertilizer use efficiency aims to ensure that a larger portion of the applied plant nutrients is utilized by the crop to give maximum yield while reducing losses

## Are we heading for a wet & cooler winter

There is a larger chance of having wet and cooler days this winter

## Sustainability

...can be defined as providing for present needs without compromising the ability of the future generations to meet theirs

# 4R NUTRIENT STEWARDSHIP

growers who may have missed the seminars. 4R represents – right source, right rate, right time and right place.

## Right source

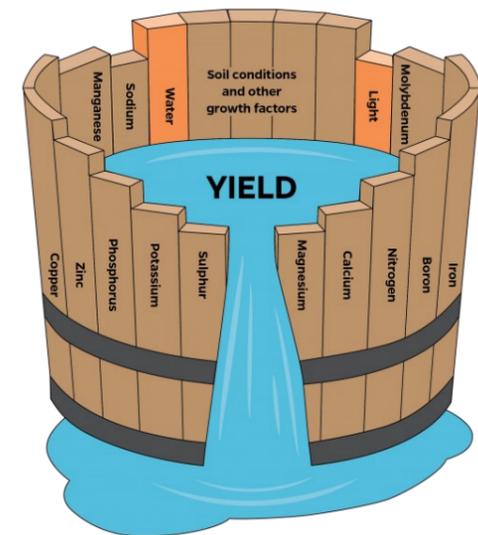
Growers need to ensure that their sugarcane crop is given a balanced supply of the required nutrients. Whether the material applied is commercial fertilizer, livestock manure, compost or crop residues, the nutrients must be balanced. If one of the required nutrients is not applied or is applied in insufficient quantities, the uptake of the other elements will be negatively impacted. For example, nitrogen deficiency affects the crop uptake of other nutrients like potassium. Leibig’s law of minimum (Figure 1) says “crop yield is determined by the most limiting factor in the field”. In other words, the deficient element(s) in the soil determines the final yield. It is also important that the supplied nutrients are in plant available forms.

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## Right rate

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**Figure 1: Leibig’s law of minimum**

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## 4R NUTRIENT STEWARDSHIP *CONT...*

in the soil. Hence growers are strongly advised to take soil samples for laboratory analysis if they are to know the required nutrients as well as their application rate. The rate of application depends on the recommended fertilizer and the source of fertilizing material. The practice in the industry is that growers receive fertilizer recommendations from the Technical Services which they use to source quotations and supplies from fertilizer distributors. Depending on the required blend and sources of the fertilizer mix, distributors are able to calculate the rate of fertilizer the grower needs to apply. The Technical Services also assists growers in this regard.

### Right time

It is critical for nutrients to be applied at the time when the crop needs them (i.e., time of maximum uptake). Apart from enhancing maximum use, applying nutrients at the right time reduces the risk of loss. For example, in the sugar industry growers are advised to split their nitrogen applications at least into two (and more for drip applied fertilizers). The first dressing should be made at most 7 days after

harvesting and the second dressing from August (or earlier if temperatures are high) for early harvests and between a month or two for mid- and late season harvests, with lag time reducing as the season gets warmer. For replants, the recommendations is to apply basal dressing fertilizer at planting.

### Right place

It is important that nutrients are applied at the right place where they will be easily accessed by plant roots. For replants, growers are advised to place their fertilizer on the furrow at planting. This is necessary because the cane roots will easily access them especially phosphorus which is immobile in the soil. For ratoon crops, since placing the fertilizer on the plant roots is not possible (save for drip irrigated cane), growers are advised to band apply fertilizer on the cane row and follow immediately with light irrigation to push the nutrients closer to the roots. The immediate washing into the soil of the nutrients by irrigation is important as it reduces the exposure of the fertilizer, especially nitrogen, to volatilization losses.



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## ARE WE HEADING FOR A WET & COOLER WINTER?

### Introduction

Significant rainfall was received since October 2021 to May 2022. The high rainfall has not only improved river flows and dams levels used by the sugar industry, it has also raised the water table in the soil. Due to the possibility of high-water table in most fields, growers should avoid over irrigating this winter because it could easily lead to drainage problems. Proper irrigation scheduling is strongly advised. The ESA Irrigation section is ready to assist any grower with available irrigation scheduling tools. Generally, winter is characterized by both low rainfall and temperatures. However, rainfall frequencies may differ this winter.

### The 2022 winter season weather forecast

There is a larger chance of having wet and cooler days this winter. The rainfall forecast released by the Eswatini Meteorological Service (EMS) for the May

to July 2022 period shows a generally normal to above normal rainfall in most areas of the country (Figure 2). This means there is a chance for growers to save on water and electricity during this period. Rainy days also increase chances of cloudy days thus water requirements could be reduced significantly. Already, rainfall received in May this year was above the long-term mean (LTM) in all the met sites used by the sugar industry (Figure 3).

Minimum temperatures for the same period are forecasted to be normal to above normal in the entire country. On the other hand, maximum temperatures are forecasted to be below normal in most areas of the country except in the western part of the country where it is forecasted to be normal to below normal

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## ARE WE HEADING FOR A WET & COOLER WINTER? *CONT...*

(Figure 4). This means during the day temperatures in most of the sugarcane growing areas this winter are expected to be relatively cooler. Cool temperatures contribute to the lowering of crop water demand. Already, the April and May evapotranspiration (which is an indicator of crop water requirement) was below the LTM in all the sugarcane growing areas. Due to the envisaged low crop water demand this winter, overirrigation should be avoided because excess water is detrimental to crop growth and soil properties. Over-irrigation also wastes water and electricity, yet electricity is more expensive in winter (June to August).

According to Eswatini Electricity Company, this period falls under the high electricity demand season when electricity tariffs are significantly high. Excessive water in the soil in winter can also increase chances of frost formation if temperatures drop to very low levels. However, the first irrigation after harvesting is critical and should not be delayed; after which a proper scheduling should be followed.

### State of El Niño and La Niña conditions

El Niño is a warm and dry condition while La Niña is a cool and wet condition. Information sourced from EMS indicates that during the forecasted period there is no El Niño or La Niña condition developing yet. The current climate outlook suggests that the tropical Pacific Ocean which influences the El Niño and La Niña conditions will remain neutral at least up to September 2022.

### Conclusion

The high rainfall received since October 2021 to May 2022, coupled with weather forecast that could significantly reduce water demand this winter; growers are advised to strictly follow irrigation scheduling techniques thereby reducing electricity costs, drainage problems and frost formation. Growers should contact the ESA Irrigation Section for assistance on managing irrigation water whenever they have a need.

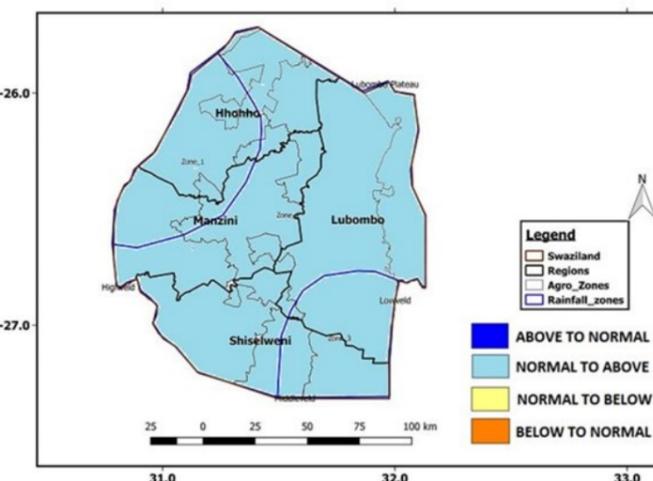


Figure 2: Forecasted rainfall for May to July 2022\*

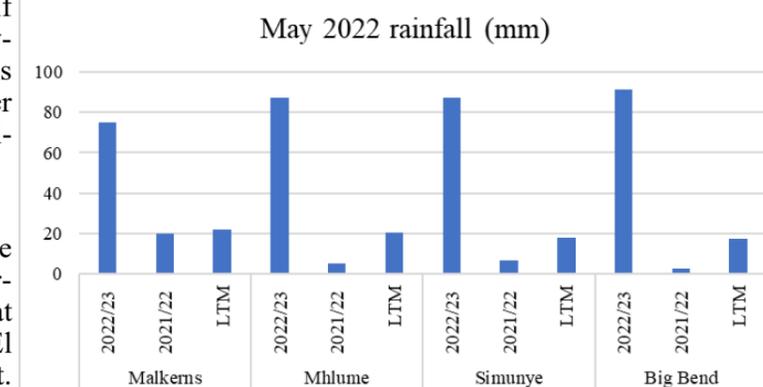


Figure 3: Rainfall records for cane growing areas (May 2022)

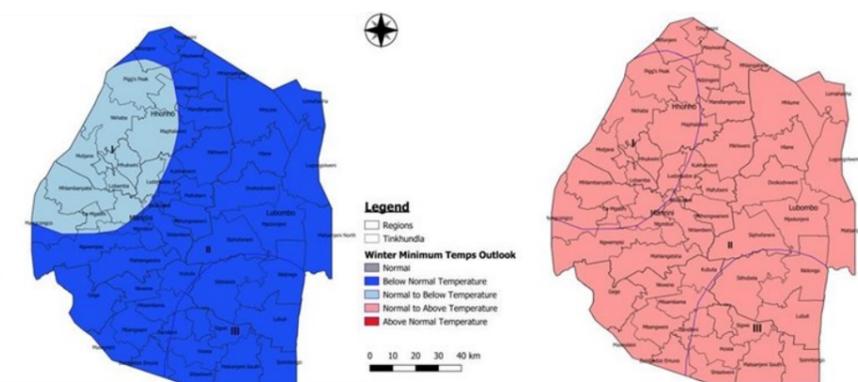


Figure 4: Forecasted maximum temperatures outlook for May to July 2022\*

\*Source: Eswatini Meteorological Service



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