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Effect of climate change on livestock

Colleen Janse van Rensburg

Climate has a significant impact on animal production and with rising global temperatures and changes in rainfall patterns, farmers need to plan and manage accordingly.

Global temperatures are predicted to continue rising, with extreme weather events becoming more frequent and more intense.

It is the variability and intensity of the higher overall temperatures that are of greatest consequence to animal agriculture. Extreme weather, such as drought and heat, affects many areas of animal production including animal performance, farm activities and inputs, and marketing.

1. Animal performance

Heat and humidity have a direct impact on animal physiology and production. Extreme heat leads to higher mortalities and economic impact through changes in daily gain and feed conversion efficiency. There is also the effect on the immune system of the animals, making them more susceptible to stress and diseases. Apart from the direct impact on production; heat, humidity, and moisture drive pest and disease cycles. These changes can be spatial or temporal.

2. Farm activities and inputs

Food shortages necessitate buying of feeds, and since demand will be high, prices will also be high. As farm activities are dependent on weather conditions, periods of high temperatures have a negative influence on events such as animal handling and transporting.

Flooding impacts manure handling and can take out roads and bridges affecting labourers getting to work as well as the transporting of feeds, equipment, and animals. Power outages also often accompany extreme weather thus providing additional challenges to the farmer.

3. Marketing

Climate changes influence market demand and resultant negative prices. Drought and flooding

result in feed shortages and accompanying higher feed prices. Farmers also experience a decrease in selling prices when demand for livestock is low as is common when surplus livestock is sold to mitigate the impacts of droughts.

Since it is clear that climate change impacts animal agriculture both economically and productively, farmers need to relook at their current management scenarios and start conditioning their animals to change weather events.

High performing animals are most vulnerable to climatic changes and experience more intense stress and drops in performance. Conception rates primarily are affected, and farmers are advised to select breeds and breed types more adapted to conditions similar to those associated with climate change.

In warmer climates, breeds more heat tolerant, such as indigenous breeds, often have lower productivity levels. However, their survivability is higher, and they are better able to cope with climate changes as the heat has a smaller influence on voluntary feed intake in these animals and reproduction rates are higher.

Through selective breeding and crossbreeding and changing management scenarios (putting up additional shades, changing feeds and limiting stressors), farmers may reduce the effects of climate change on their animals and maintain optimum production performances.



Colleen Janse van Rensburg

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Tips and tools for advisors

Managing Plant Nutrients to Improve Crop Yield

Portia Phahlane

Plants need light, water, air and nutrients for maximum growth. Improving crop yield is the aim of every farmer, and the ultimate reward for hard and effective agricultural labour.

Different crops have different nutrient requirements, and correct applications are as critical as the nutrient itself. Too little nutrition is ineffective and yield limiting, while too much may damage crops, waste money and effort, hamper growth, and negatively affect the environment.

To ensure that the correct nutrients in the required quantities are applied, extension officers should ensure that farmers have their soil tested first to determine the nutritional requirements. Based on the results of the soil tests, nutrition correctly applied will play a significant role in achieving maximum results.

Provincial ESO Top User

Portia Phahlane

The virtual ESO tour through agricultural South Africa to meet some of the country's **best extension officers** and the people who make a real difference to farmers and farming, this month takes us to the North West Province. The current top user there is Mr Tlou Harrison Chokoe from North West Department of Rural, Environment, and Agricultural Development (READ). He has been with the Department for the last seven years and is currently employed in the Matlosana Local Municipality, Dr Kenneth Kaunda District, as a Senior Agricultural Advisor. His immediate supervisor is Mr H Motlohelwa: Deputy Director.

Tlou's is an Animal Sciences expert, and works mainly with small and large stock production - cattle, poultry, pigs. Tlou shared with us a list of the communities that he serves: Khuma location (50 farmers), Kanana location (60 farmers) and Jouberton masakeng (85 farmers), Tigane commonage (35 farmers), Nteo (2 farmers), Brakspruit (10 farmers), Kafferskraal (15 farmers), Syferfontein (2 farmers) and Wolwerand (30 farmers). Indeed, an impressive résumé!

Tlou was introduced to Extension Suite Online in 2013 and uses the System when necessary. According to Tlou, ESO is a great help in getting around to all the farms and helping farmers as quickly and as often as possible. His most frequent ESO visits are to the animal production module, mostly to study market prices, enterprise budgets, production systems as well as the adaptability of breeds to different environments, to mention a few. He finds the Extension Guides and other related articles interesting and informative, and helpful in his growth as an agricultural advisor.

Asked about Extension Suite Online in general, Tlou describes it as a helpful and reliable source of information and a tool that increases agricultural knowledge with valuable information at his finger-tips. It is easy to interpret at any level, making it an essential tool for agricultural advisors.

National ESO Top User



Dumisani Nzama

Congratulations to **Dumisani Nzama** the ESO National Top User for August 2016.

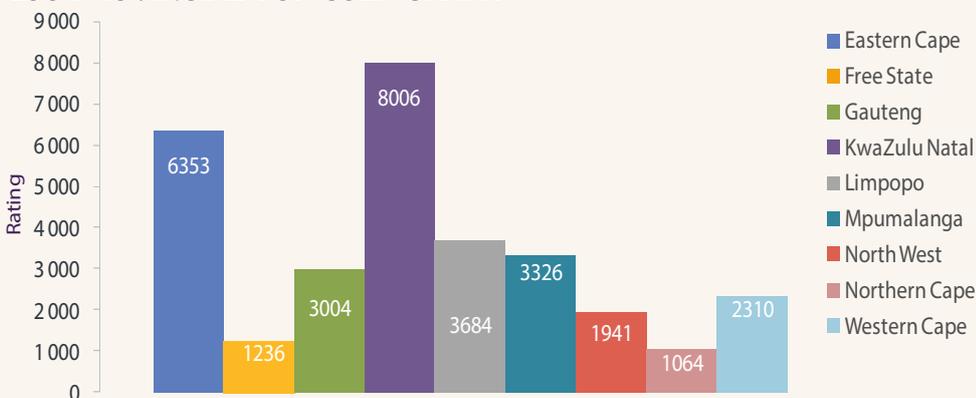
Monthly national ESO users receive the following prizes: First time National ESO User 2016: **4 Gig USB memory stick**, second time National ESO User 2016: **Digital Camera**, third time National ESO User 2016: **Nokia Lumia 520**, fourth time National ESO User 2016: **Samsung Galaxy Tab**.

EXTENSION SUITE ONLINE® UTILISATION:

August 2016

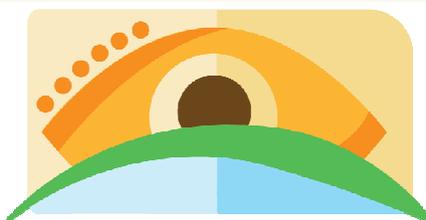
Extension Suite Online® (ESO) utilisation is determined through monitoring user utilisation in the nine provinces and by attaching values to Visits, Pages Visited and Duration of Visits; a rating is calculated to establish the ESO National Top User of the Month.

ESO PROVINCIAL TOP USER GRAPH



ESO PROVINCIAL TOP USERS

Province	Name
Eastern Cape	Sindile Magoda
Free State	Matokelo Sehloho
Gauteng	Sizwe Nzuza
Kwa-Zulu Natal	Dumisani Nzama
Limpopo	Louis Khomola
Mpumalanga	Lucas Shabangu
North West	Tlou Harrison Chokoe
Northern Cape	Patricia Kolwane
Western Cape	Mampje Jacob Mapheto



CLIMATE WATCH

Issue #8

July started with an intense cold front that moved from the Western Cape towards the north-east of the country bringing new record low temperatures. Temperatures in parts of Gauteng dropped to below 0 for the first time this winter. The lowest temperatures for this winter season were recorded on the... [Read more](#)

Read the full article on the **Manstrat AIS website**.

www.manstrat.co.za - Climate Watch

TIPS:

Browsing ESO with Chrome

Thembeke Zengele

Extension Suite Online® (ESO) was designed to be compatible with all the modern web browsers, including Google Chrome. Google Chrome is a freeware web browser developed by Google. It was first released in 2008 for Microsoft Windows and later ported to Linux, OS X, iOS, and Android.

Chrome was designed with speed, simplicity, security and customisability in mind. While it is one of the most sophisticated browsers available today, it is still easy to use.

Chrome's popularity has grown exponentially since its release. Some of its most useful features are its automatic translation facility, built-in malware and

phishing protection, and automatic updates. Other features include searching the internet directly from the address bar drag-and-drop and the auto-complete functionalities. A further useful function is that users can customise the browser and choose a custom theme, or add an extension from the web store.

There is a plethora of apps and extensions available to make the user's browsing experience more enjoyable, safe, and fun to use.

So, use chrome to the fullest while visiting Extension Suite Online®, South Africa's premium agricultural decision support system for extension officers.

Do you have any technology related questions? Send them to newsletter@esuite.co.za, with your name, province and the question and we will answer them in a following newsletter edition.



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