

this edition



1 Soil analysis and preparation with ESO

1 Tips and tools: Practical demonstrations

2 ESO tip: How to change your ESO password

2 Monthly ESO National Top User: Sifiso Mthabela

Using Extension Suite Online to assist with soil analysis and preparation

Dr John Lapham and Sabhinah Ncongwane

Soil preparation is a term used to describe the activities involved in preparing a field for planting of a crop. There are really only two goals in soil preparation. Firstly, the soil must have sufficient fertility to ensure that the crop can grow well. Secondly, the field must be in a condition that enables the crop seedlings to grow easily - that is - the soil must be moist, friable and free of weeds.

Soil preparation practices have always raised two perennial questions.

- How much fertiliser, if any, must be applied to ensure good crop growth? Fertilisation is an expensive exercise and farmers often question its benefits.
- Are all the expensive tillage exercises involved in soil preparation necessary and beneficial for crop growth?

More than a century ago, research was started to answer the first question on the amount of fertiliser to apply. Today very accurate answers can be given to questions on fertilisation of most crops. Despite this, specific information is still needed for local soil types, local climatic conditions and crop varieties. Soil analyses and consequent fertiliser recommendations for individual farmers account for all of this; they are a critical necessity to achieve optimum yields. On Extension Suite Online (ESO), under the side-bar "Production Information, Soil fertility", the soil analysis procedures used by "Cedara Fertiliser Advisory Services" are outlined. The procedures are further well-explained in the "Soil Fertility Handbook" from the KZN Department of Agriculture (**see ESO side-bar "Nutrition and Soils, Soil analysis"**).

The second question posed, on whether all tillage operations are necessary, cannot be answered so precisely. Conventional tillage practices have, in the past, always served their purpose; that is

- to remove competing weeds,
- to break up soil clods and soil compaction below the surface, and

- to build beds onto which crop seedlings can be planted (improving drainage and assisting with accurate fertiliser placement).

The sustainability of conventional tillage systems has come into question in recent times because of the more intensive use of land (to feed an ever-increasing population). Soils are deteriorating, affecting yields. Also, the cost of fuel-driven tillage operations continues to increase rapidly (see **ESO side-bar "Agricultural Engineering, Land, Mechanised operations"**).

All this has led to the increased use of "reduced tillage" practices. Farmers were initially suspicious of this approach, but are now less sceptical. With good management, results can be as good if not better than conventional systems for both large-scale and small-scale farmers. (**See the "Small-scale Conservation Farming Handbook" on ESO side-bar "Agricultural Engineering, Land, Conservation Principles"**).

In general this approach, using conservation agriculture techniques, advances the cause of sustainable and profitable crop farming across the spectrum of small and large-scale farmers. Furthermore, because the systems are sustainable, they help mitigate the effects of climate change.



Dr John Lapham and Sabhinah Ncongwane

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Liven up your computer's desktop with an Extension Suite Online wallpaper. Download wallpapers directly from the ESO newsletter e-mail or on the ESO media website: media.esuite.co.za



Tips and tools for advisors

Vela Gedze (Western Cape Department of Agriculture)

Practical Demonstrations

Researching new agricultural techniques is an integral part of an Extension practitioner's duties. These techniques require demonstration days where the extension practitioner can demonstrate new techniques to farmers. Below are a number of tips to keep in mind when doing a demonstration.

- Do proper planning and research on the improved agricultural technique.
- Analyse the farmer's current projects and farm situation.
- Explain the purpose of the new technique.
- Inform the beneficiary in good time of the demonstration.
- Set a date, time and draw up a programme.
- Collect necessary equipment and materials.
- Be hands-on during the demonstration.
- Schedule a follow-up visit to analyse progress.

TOP NATIONAL ESO USER:

The monthly national ESO user will receive the following prizes: First time National ESO User 2014: **4 Gig USB memory stick**, second time National ESO User 2014: **Digital Camera**, third time National ESO User 2014: **Nokia Lumia 520**, fourth time National ESO User 2014: **Samsung Galaxy Tab**.

Congratulations to **Mr Sifiso Mthabela** (KwaZulu Natal Department of Agriculture and Rural Development), the ESO National Top User for February 2015.

GET TO KNOW ESO PROVINCIAL TOP USERS:



Jeremia Murovhi

This month we get to know one of our provincial top users a bit better. Mr Jeremia Murovhi, the provincial top user for February, is from the Limpopo province. Jeremias' hometown is Vuwani, which is within the Makhado Municipality, Vhembe District. The town, which is a few kilometres from Levubu, is very small. The level of poverty is very high with much of the population unemployed; most people depend on agriculture for survival. As is the case in many rural areas, agriculture is the key to reducing poverty in this area.

Jeremia currently works as an expert in crop production, in Mutale Municipality, Vhembe District. He has been working at the department for approximately 4 years now, with Mrs N.M. Mugwedi as his immediate supervisor and Mr K.S. Muthala as district supervisor.

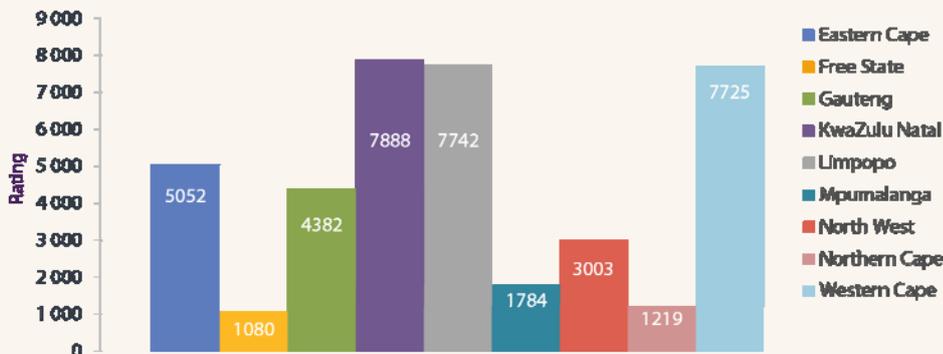
Jeremia has 3 cooperatives in his ward, but two are not functional at the moment; he is trying to assist them to re-start their farming operations. In addition there are 3 food security projects, 7 schools, more than 300 livestock farmers and around 40 crop farmers; and he provides technical advice to all these projects and farmers.

In order to expand his knowledge of livestock farming, he started using Extension Suite Online more extensively. This was because, being a crop production expert, he required assistance when dealing with the numerous livestock farmers in the area. Jeremia realised that Extension Suite Online answered many of the queries and most of the information that he needs is easily available on the system. He says that he no longer refers questions to a livestock specialist as he has direct access to the necessary information, and it is readily available and easily accessible.

EXTENSION SUITE ONLINE UTILISATION: FEBRUARY 2015

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	Simphiwe Sintwa
Free State	Griffith Hadebe
Gauteng	David Phasha
KwaZulu Natal	Sifiso Mthabela
Limpopo	Jeremia Murovhi
Mpumalanga	Rhulani Hlungwane
North West	Tlou Harrison Chokoe
Northern Cape	Patrick Mkosana
Western Cape	Riaan Nowers

PEST TALK: FEATURED PEST

Further information on all featured pests can be found on ESO.

Scientific Name: *Heteronychus arator*
Popular Name: Black Maize Beetle

A shiny black beetle about 12 mm long. Very active and a good flier. Nibbles away the stem of the plants just above germinating seed. Grub-like larvae feed on dead and organic matter in the soil.



Black Maize Beetle

ESO TIPS:

How to change your ESO password

Thapedi Setshedi

A password is a string of characters allowing access to a computer, interface, or system. Limiting access to personal, valuable or classified data stored electronically through passwords serves to protect it from unauthorised exposure.

Passwords are also used to limit access to specialised or defined groups of users, such as Extension Suite Online or scientific forums, etc. Changing passwords at least twice a year ensures that access is limited to authorised individuals and groups only.

The more characters included in a password, the stronger it becomes. It is equally important to select a password that will be remembered by the user, and the best way to do so is to use association with characters and numbers to remember them.

Users can use the ESO Help Desk support to change their passwords, or they can do it themselves through the ESO Home Page. Go to "Profile" in the Title Bar. Open "Access Management" on the sidebar, select "My Profile", and click on "Security Details" and type in the new password. Click on "Change Details" to finish. Contact the Help Desk on 0860376376 or 0723828278 or support@esuite.co.za, for administrative ESO, including login problems, recovery of passwords and password changes.

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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