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Postharvest grain loss and small-scale farmers

Sabhinah Ncongwane

According to APHLIS (African Post-Harvest Losses Information System) estimates, post-harvest grain losses in Africa range between 10 and 20 percent, with some sources reporting losses of up to 40 percent.

Technical inadequacies are mostly to blame for post-harvest losses in grain production. Poor harvesting and post-harvest handling methods, and incorrect drying techniques often lead to the spread of diseases. At the same time, poor storage conditions also result in pest infestations and damage.

Post-harvest product losses indirectly lead to higher prices as producers' costs rise with losses, and the environment is impacted negatively due to the fruitless use of resources - land, water, fertilizers and energy - to produce grain that is lost and doesn't reach consumers.

Farmers can reduce grain losses during storage considerably by following best post-harvest practices, from harvest to the sale of the grain, by utilising simple storage technologies. Hermetically sealed grain-storage, for instance, is one of the most cost-effective systems as it eliminates gas exchange between the inside and outside of the container and insects in the containers die as the levels of oxygen decrease. However, for the success of hermetic-storage, grain must be clean and dried to below a 14% moisture content (preventing fungal mould growth).

Three types of hermetic grain storage are available to small-scale farmers:

- Galvanised steel silos: These storage systems are suitable - up to 1400 kg - for the storing of beans, maize, sorghum, rice, and wheat of grain. Although expensive around R 2,000.00 - they can last up to 25 years.
- Special plastic bags (PICS System): This system is used to achieve hermetic-storage. The grain is placed in high-density polyethylene bags - 50 - 100 kilograms and 80µm thick. It is then placed in a second bag, and a third woven polypropylene bag is used

for strength during handling. The lifespan of the bags is around two years and cost approximately R 40.00 each.

- Re-cycled plastic containers: Also used to achieve hermetic storage, the grain is placed in 10 litre recycled plastic containers, each holding about 8kg of grain. Tests showed that after storing maize at 22°C in these containers for four weeks, no weevils had survived. Containers of this kind cost about R 15 and can last up to 3 years.

Unfortunately, hermetic grain storage systems have not been adopted as well as was expected - mainly due to a lack of technological knowledge from small-scale farmers and extension advisors. The relative, initial high costs of some of the systems further contributed to the low adoption rates.

The amount of post-harvest grain loss in sub-Saharan Africa is equal to the amount of cereal imported into the region annually. Reductions in post-harvest grain loss would result in fewer imports; substantial savings on land usage; and lower seed, fertiliser, and water costs. Food and nutrition security in the region will improve, with additional positive effects for the economy.



Sabhinah Ncongwane

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Tips and tools for advisors

Importance of record keeping for farmers

Portia Phahlane

One thing that distinguishes a successful farming endeavour from a part-time activity is effective record keeping, combined with the application of that knowledge, to the financial benefit of the farmer. Records need to be accurate and continuously maintained to have any value, and cover all transactions and relevant activities, of the entire production cycle.

Records are essential for planning: It's applied when erecting or maintaining infrastructure; when and how to adapt and improve farming methods. In short; how to make and execute the appropriate management decisions. Farmers who have applied for credit or loans for their businesses know the value of providing verified information - based on proper record-keeping. Lenders want to see, amongst other things, that farmers base their projections and decisions on reliable data, gained from written records and intimate knowledge of the farm. This includes information on farming performances - successes and failures - identifying those factors playing important roles in the eventual results. Record-keeping, therefore, helps to ensure that failure is minimised, and success is repeated.

If farmers do not keep records, a valuable opportunity to learn is lost. Good records lead to better decisions and business growth.

National ESO Top User

Portia Phahlane

It's with pleasure that we introduce to our readers, for the second time this year, Sizwe Nzuza - ESO National Top user for October 2016. Sizwe is from the Gauteng Department of Agriculture and Rural Development (GDARD).

According to utilisation data, Sizwe spent more than 35 hours on ESO during the month, supporting his statement that "ESO has become part of my daily life as an Extension Practitioner as it assists me to remain relevant to the profession." Sizwe mainly uses both his smartphone and laptop to access ESO.

Q: Describe your duties.

Sizwe:

"I work in Food Security, a sub-component of GDARD that renders extension services to communal, food security projects; school food gardens; and backyard food gardens; as a linkage between farmers, researchers, and GDARD. For me, it is imperative to do thorough research on specific subjects using ESO as a source of information. This ensures that the services rendered to farmers are relevant, accurate, sufficient, and delivered on time."

Q: What Sections on ESO do you visit most often?

Sizwe:

"I mostly use the ESO Plant Production Module, with emphasis on Production Information, the Problem Solvers, and Economics."

Q: Why ESO?

Sizwe:

"The strength of the system lies in the fact that ESO provides relevant information that is readily available, to assist Extension Practitioners when rendering advisory services to farming communities. Farmers have high expectations when EP's visit their projects/farms and trust that they can solve all their problems within a blink of an eye. This often makes the life of extension practitioner difficult as many expectations are not extension related or realistic, and EP's just cannot assist in all of them. However, through ESO, EP's now have the opportunity to use this valuable information system at their disposal, for research on particular subjects before project/farm visits to advise farmers correctly and answer questions within a reasonable time. I encourage Extension Practitioners to use the system on a regular basis - it will certainly improve the quality of services you render to farmers."

National ESO Top User



Sizwe Nzuza

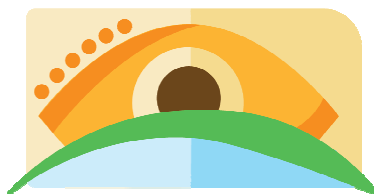
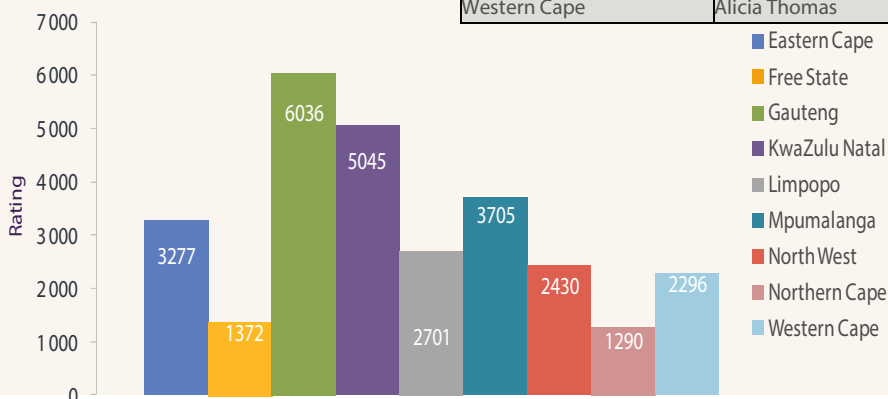
Congratulations to **Sizwe Nzuza** the ESO National Top User for October 2016.

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: October 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



CLIMATE WATCH

ESO PROVINCIAL TOP USERS

Province	Name
Eastern Cape	Mthobisi Zuma
Free State	Annie Seutloadi
Gauteng	Sizwe Nzuza
KwaZulu Natal	Dumisani Nzama
Limpopo	Louis Khomola
Mpumalanga	Lucas Shabangu
North West	Mompoti Gabanagosi
Northern Cape	Ernest Oitsing
Western Cape	Alicia Thomas

- Eastern Cape
- Free State
- Gauteng
- KwaZulu Natal
- Limpopo
- Mpumalanga
- North West
- Northern Cape
- Western Cape

The month of September started with high temperatures in the northern regions of the country. Temperatures reached the high thirties at the end of the first week of September. In the second week of September it was slightly cooler with the first summer thunderstorms brought some relief... [Read more](#)

Read the full article on the Manstrat AIS website.

www.manstrat.co.za - *Climate Watch*

TIPS:

Tech tips to optimize computer/laptop use

Thulani Zengele

There is nothing more frustrating than waiting for your laptop or computer to boot up after being shut down, whether it is over the weekend or quickly shutting down before you leave for a meeting. In times where a user needs to access information fairly quickly, it would be great if the computer is active as soon as possible. Most computers have a built in power saving tools such as "stand by", "Sleep mode" and "screen saver mode".

Screen saver

It is advisable to have a screen saver for your machine, in times when you have to quickly step away from your computer, to have a picture display on your screen as you would have sensitive documents still active in the background which will not be visible to passers-by. The screen returns to normal by a simple

mouse movement – just pick up - from where you left off. This will not log you off.

Sleep mode

In the event that you have been away from your computer for a longer time, your pc could then be put into sleep mode. That means that your computer's processing power would be cut down to a minimum and only allow power to core functions of your computer such as the hard drive, CPU and the fan.

Stand-by mode

When left unattended for a number of hours, your PC would go into stand-by mode, which means that all core functions of the computer such as the screen, hard drive, and CPU would be temporarily disabled. By using your keyboard to punch in a key, this would wake the CPU, hard drive as well as the screen, and then you could carry on where you left off – you will have to log back onto your machine as this mode will automatically log you out.

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



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