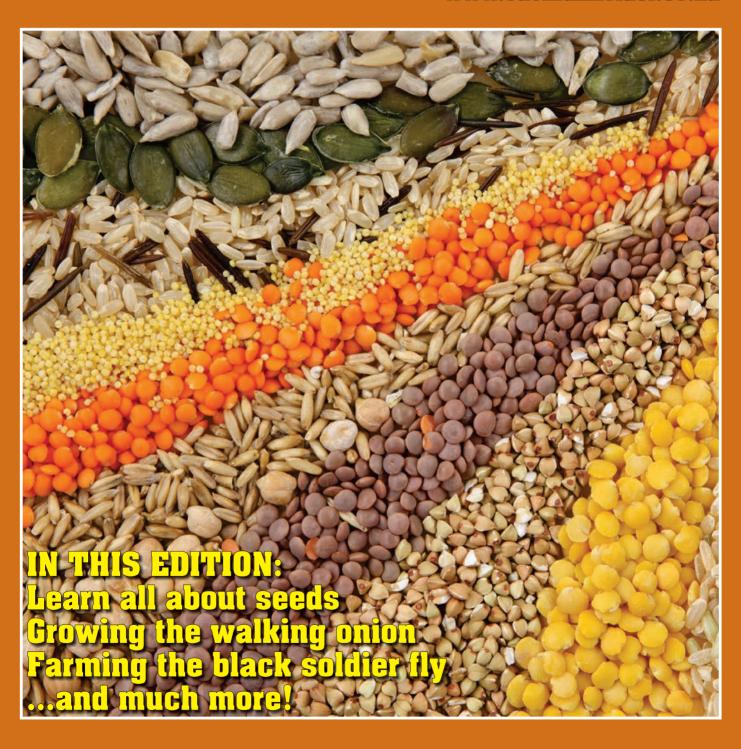
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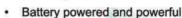
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EDITOR'S COMMENT

Blackout blues

he government probably isn't aware of it, the ANC probably couldn't care about it and Eskom is helpless to prevent it, but the small scale poultry sector is a mess at the moment, largely thanks to load shedding.

And, some would argue, the large-scale poultry industry is a mess, too. But it's the small scale producers who concern us as smallholders, so let's look at this frankly often out-of-sight, out-of-mind sector. The problem, largely, is the shortage of young birds, particularly layers and for breeding, of the breeds that aren't used commercially such as Potch Koekoeks, Australorps, Orpingtons, Brahmas and the like, as well as the showy breeds such as Polish Frizzles, etc. Such bloodlines, highly crossed over many generations, have no brooding instinct, the consequence being that the only way to produce chicks is to artificially incubate their fertilised eggs.

This means using an incubator if one wishes to produce a commercially viable number of chicks. And one of the vital factors in ensuring a successful hatch rate of any eggs in an incubator, is to ensure that the correct temperature is maintained for the full duration of the incubation period.

And this temperature is warmer than the average South African ambient room temperature, certainly at night, but often during the day, too.

Thus, every incubator manufactured today contains some form of heating element attached to a thermostat (in the old days, granted, incubators were often heated by gas burners).

And the word "element" in the context of heating highlights the problem. It needs electricity. Constantly, 24 hours a day, seven days a week, for more than three weeks per cycle. Something that currently doesn't exist in South Africa, and won't for the next few years, if Eskom's own forecasts are to be believed. (Don't listen to the government on this one: It talks

poppycock most of the time, and certainly so on this issue).

So to have any hope at all of a successful hatch rate a producer of day olds (of any variety) needs a constant, reliable back-up power



supply, either in the form of solar power, or from expensive generators. And we all know how expensive solar power is to install, and how expensive diesel is for one's generators – just ask the big commercial producers such as Daybreak, Astral, Chubby Chick etc by how much their costs have increased since load shedding started in earnest.

For many small producers, procuring sufficient backup power is a bridge too far in the short term, so they have simply switched off and mothballed their incubators until they can afford to do the necessary, or until the power situation improves.

The result? A dire shortage of specialist breed hens, which is felt most keenly by back-yard keepers, smallholders and small farmers for whom their flocks provide eggs and meat for their own needs.

And, if you can find them at all, the few chicks that do become available are being snapped up at ridicu-

lous prices. One seller quoted us R500 a chick for a

bird that in better times sells for around R50. President Ramaphosa has declared two states of disaster so far this year. One to fast-track responses to the current floods and the other because of the electricity crisis, which will doubtless fast-track the arrival of the environmentally-disastrous Turkish power ships. Perhaps he should declare a third, a state of disaster in the government, so that we can fast-track the ANC government's sweeping into the dustbin of history, so that it can be replaced by one run by competent bureaucrats.

Pete Bower

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FRONT COVER

Read about seed types, seed saving and seed swapping in this edition.



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Check all over for lost pets, says SPCA

he NSPCA is calling on pet owners to look beyond their local SPCA if their pets go missing. In a statement, the welfare organisation said that often, when a person's pet goes missing, they head to the nearest SPCA to look. In reality, however, if a stray is picked up by a kind passerby, they are often taken to veterinary clinics or other animal welfare shelters.

The organisations notes, "One must remember that stray animals don't only include animals that may have got lost by mistake. Stray animals also include animals that are forced to live on the streets permanently because they were dumped, abandoned, or born in the streets."

Although the NSPCA admits that technically, stray animals are meant to be admitted to the local pound (which is in many cases the SPCA), given the sheer number of animals on the streets, including in areas

where there are no SPCAs, sometimes members of the public have no choice but to take those animals elsewhere.

"Although other animal welfare shelters do not have the authority to act as a local pound, animals that are admitted into their care may have a better chance of survival than being left on the street, especially in areas where there are no SPCAs," says the NSCPA. If you have lost a pet, you are advised to look at facilities beyond your SPCA. Check local vets and other animal shelters. Check on social media as well, where many welfare organisations post notices about stray animals. Go in person to the shelters and SPCA if possible, rather than just enquiring over the phone. Pet owners are reminded to ensure their pets are properly identified by way of a microchip and collar, with updated details, to ensure pets can be reunited with the owner if lost.

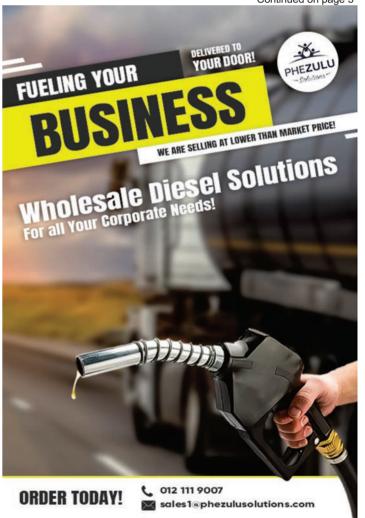
Wild animal reclassification overturned by court

number of wild animals have been reclassified according to the Animal Improvement Act of 1998. This comes after the Endangered Wildlife Trust (EWT) successfully challenged the Dept of Agriculture, Land Reform & Rural Development (DALRRD) in the North Gauteng High Court regarding two amendments to the act published in June 2016.

In these amendments, DALRRD had reclassified a number of wild animal species as "Landrace breeds (indigenous and locally developed)" and/or "locally adapted and regularly introduced breeds (other declared breeds)". Among these species are a number of antelope including wildebeest, duiker, eland, buffalo, steenbok, reedbuck, waterbuck, nyala, tsessebe, springbok, kudu and others, as well as



giraffe, zebra, lion, cheetah and rhino. Also included were a number of deer species not indigenous to, or Continued on page 5







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NEWS

New Foundation aims to combat antivenom shortage

outh African snake experts are warning of an antivenom shortage. This comes as anti-venom producer SA Vaccine Producers (SAVP), part of our National Health Laboratories, say power outages and supply problems affected development in 2022. According to the African Snakebite Institute (ASI), it has been almost impossible for the last six months to purchase antivenom, resulting in severe shortages in some areas. Veterinarians treating dogs and other animals for snakebites have been particularly hard hit, leading in many cases to the animals' deaths. SAVP produces two antivenoms for snakebites ~ a monovalent antivenom solely for the venom of the Boomslang, and a polyvalent antivenom which is manufactured using the venom of ten snake species ~ the Black Mamba, the Green Mamba, the East African Jameson's Mamba, the Snouted Cobra, the Forest Cobra, the Cape Cobra, the Mozambique Spitting Cobra, the Rinkhals, the Puff Adder and the Gaboon Adder. The ASI says SAVP supplies several countries in Africa, as well as South Africa. In some cases, doctors have been reluctant to use the full dosage when treating snakebite due to the shortage. Most serious snakebite cases require six to 15 ampules of polyvalent antivenom, which can cost between R14 500 to R28 600 per treatment.

In light of this, the ASI has created the African Snakebite Institute Foundation, with the hopes of assisting in the distribution of antivenom. The organisation says it has set up an antivenom bank in Pretoria, which is already functional, and supplying vets and hospitals. The ASI says, "The ASI Foundation's ambitious plan is to establish over 20 antivenom banks across the country, with both monovalent and polyvalent antivenom available 24 hours a day. The idea is to set these banks up at various pharmaceutical departments of universities and hospitals."

This project will cost in the region of R1 million. ASI is calling upon corporates and individuals to assist with funding this project. Those interested in donating can contact ASI at foundation@asiorg.co.za. \$\&\text{\cong}\$



Boomslang.

From page 5

even commonly found in, South Africa. The EWT was concerned that several of these species (notably the deer species) are not indigenous to South Africa. "The EWT promotes the value and role of wild animals in natural free-living conditions which contribute to functioning ecosystems and to the perpetuation of our natural world. We do not support the proliferation of intensive wildlife breeding facilities which provide no demonstrable conservation benefit," says the organisation.

According to the EWT, it and the SA Hunters and Game Conservation Association challenged the 2016 amendments legally. "Our grounds of review included legitimate, substantive and procedural

NEWS

concerns, including but not limited to the fact that there was neither inclusive public participation and nor had any intergovernmental consultation and participation taken place. The amendments also failed to consider materially relevant information about the environmental impacts of this decision and that the inclusion of wild animal species as 'breeds' to be managed by the DALRRD is contrary to the objects and purposes of section 24 of the Constitution, the National Environmental Management Act 107 of 1998 (NEMA), the National Environmental Management Biodiversity Act 10 of 2004 (NEMBA) and the AIA itself," EWT said in a statement.









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GMO, hybrid & heirloom: What's the difference?

n agriculture, the use of genetically modified organisms (GMOs) and hybrid seeds has become a popular topic of discussion. While these two types of seeds are often compared and contrasted, they are actually quite different, and often heirloom seeds are overlooked in the debate around types of seeds. If you are looking to start farming vegetables, you must understand the differences between seeds, their advantages, disadvantages, and impact on the environment.

Genetically Modified Organisms (GMOs)

GMOs are seeds and plants that have been altered in a laboratory using genetic engineering. This process involves inserting foreign DNA into the plant's genome to create a new trait. GMO seeds are created by splicing genes from one organism into the DNA of another organism, typically to make the plant more resistant to pests or herbicides, or drought resistant, or to improve its nutritional content. One of the main reasons behind GMO seeds is that they can increase crop yields, making them commercially more successful. As these seeds are designed to be resistant to pests and herbicides, farmers can theoretically use fewer chemicals to control pests and weeds, as well as using certain chemicals which might otherwise kill the plant (eg "Roundup-ready"). This reduces the cost of inputs, such as pesticides and herbicides, and in some cases allows for more efficient use of land, water and other resources. However, a major concern about GMO seeds is the long-term effects of GMOs on soil health, biodiversity, and the overall health of agricultural ecosystems, as well as their potential impact on human health and the environment. There is some evidence that GMOs can cause allergic reactions or other health problems, although these risks are generally considered to be low. Additionally, there are concerns that GMOs could harm beneficial insects, such as bees, or create "superweeds" that are resistant to herbicides. Another disadvantage of GMO seeds is that they can be expensive, which can make them inaccessible to small-scale farmers. This is because the developers of

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the organism incur significant costs in the process and seek to recover these through the sale of commercially-viable seeds, which are also often sterile, meaning farmers must buy fresh seed each season. In other words, seed saving of GMO crops is not an option.

Hybrids

Hybrid seeds are created by crossing two different types of plants within the same species to produce a new variety with desirable traits. This process is different from genetic engineering, as it does not involve inserting foreign DNA into the plant's genome. Hybrid seeds are developed through traditional breeding methods, and the resulting plants are generally more vigorous and productive than the parent plants. (Remember the Mendel's Pea experiment you were taught in high-school biology?) A big advantage of hybrid seeds is that they can increase crop yields and quality. Because they are created by crossing two different types of plants, the resulting plants are generally more robust and resistant to disease and environmental stress.

This can result in higher yields, better quality crops, and a reduced need for pesticides and other chemicals.

Another advantage of hybrid seeds is that they are generally more affordable than GMO seeds. Because they are developed through traditional breeding methods, the cost of producing and distributing hybrid seeds is lower than that of GMO seeds. However, seed saving of hybrids is not recommended because subsequent generations produced from saved seeds may not grow true to type and may produce disappointing crops.

Most commercially-grown vegetables (not maize and the GMO crops) are grown from hybrids.

Continued on page 8



SEEDS

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Heirloom

An heirloom seed is a type of plant seed that has been passed down through generations of gardeners and farmers. Heirloom seeds are open-pollinated, which means that they are pollinated by natural means such as wind, insects, or birds, rather than by human intervention. Heirloom species are by no means "modern" and some heirloom varieties can be traced back to ancient civilizations.

Seeds from heirloom species can be saved and sown from year to year. This reduces the need for farmers to purchase new seeds each year, and helps to support local food systems.

One of the primary advantages of heirloom seeds is their genetic diversity. Heirloom seeds are often more diverse than modern hybrid varieties, which are bred for specific traits such as yield or disease resistance. This diversity makes heirloom seeds better adapted to local growing conditions, and can help to increase the resilience of our food systems.

Heirloom seeds can also be more resilient to changes in weather, pests, and other environmental factors. Another advantage of heirloom seeds is their unique flavour and appearance. Many heirloom varieties have distinctive flavours, textures, and colours that are not found in modern hybrid varieties. This can make them more appealing to home gardeners and chefs, and can help to preserve culinary traditions. Heirloom seeds are often associated with specific cultural or regional traditions, and can help to preserve local traditions and agricultural practices. Thus, by growing heirloom varieties, small farmers can help to support and promote local cultural heritage. Finally, heirloom seeds are often more sustainable than modern hybrid varieties.

A disadvantage of heirloom species is their potential for lower yields. Because heirlooms are not bred for specific traits such as yield, crop consistency or



Heirloom tomatoes.

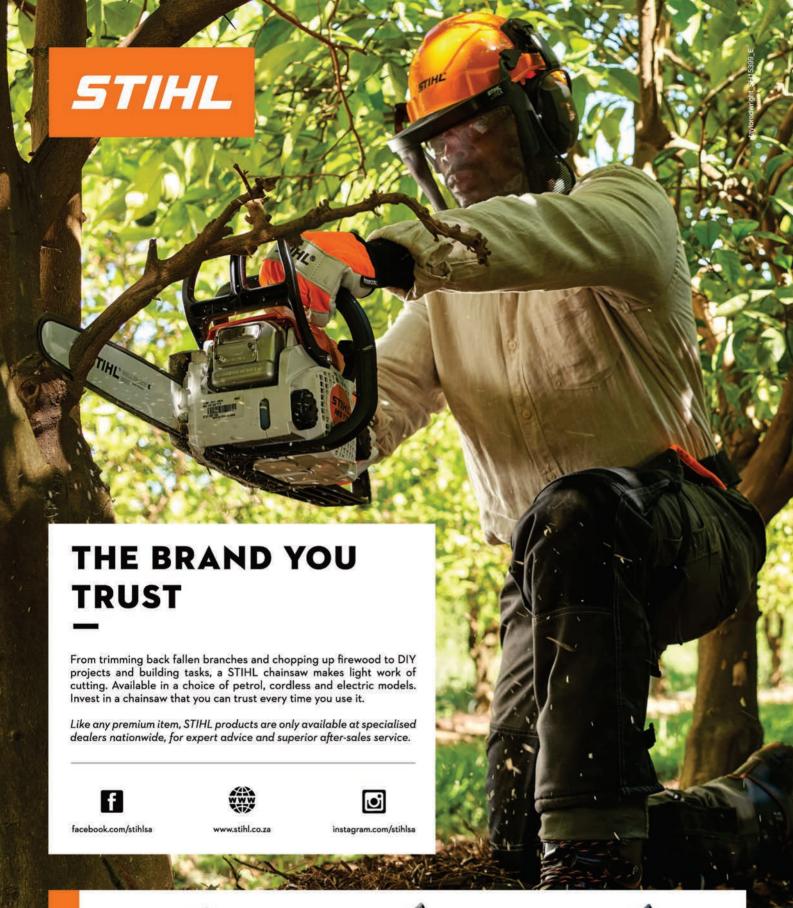
disease resistance, they may produce lower yields than modern hybrid varieties. This can be a disadvantage for commercial farmers, who rely on high yields to make a profit. For small or subsistence growers, however, this shouldn't be a problem and the quality of produce grown via heirloom seeds will far outweigh any need for large quantities.

In some cases, heirloom seeds may be more difficult to find than modern hybrid varieties.

Because heirloom seeds are often passed down through generations of gardeners and farmers, they may not be widely available from commercial seed companies. In recent years, however, commercial seedsmen have begun to service the heirloom market by packaging small amounts of seed and labelling them as heirloom, so they can sometimes be found alongside the more common hybrids on nursery shelves.

There is a growing demand for locally-grown, sustainable, and artisanal products, and heirloom seeds can help small farmers to access these markets. By offering unique and high-quality products, small farmers can differentiate themselves from larger commercial growers and compete more effectively in local and regional markets.









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SEEDS

How to save seeds for next season

eed saving is the practice of collecting and preserving seeds from plants for use in future growing seasons. Seed saving has been practiced for thousands of years by farmers, gardeners, and indigenous communities around the world. Enthusiasts say this practice is important for preserving genetic diversity and maintaining the sustainability of our food systems.

For small farmers, there are many benefits to seed saving. When we save seeds from different varieties of plants, we are preserving their unique traits and characteristics. This helps to maintain the biodiversity of our food systems and protect against the loss of genetic information that can occur with the use of hybrid and genetically modified seeds.

Another benefit of seed saving is that it is a sustainable practice. When we save seeds, we are reducing our reliance on the commercial seed industry, which is often controlled by a small number of large corporations. Seed saving can therefore help to support local food systems and promote the use of open-pollinated and heirloom seeds, which are often better adapted to local growing conditions.

There are several different techniques for seed saving, each of which is suited to different types of plants and seeds. Here are some of the most common techniques.

Dry Seed Saving - This technique is used for seeds that are produced in dry pods or fruits, such as peas, beans, and lettuce. To save these seeds, allow the pods or fruits to dry on the plant before harvesting. Once the seeds are fully dry, remove them from the plant and store them in a cool, dry place.

Wet Seed Saving - This technique is used for seeds that are produced in fleshy fruits, such as tomatoes and cucumbers. To save these seeds, remove the seeds from the fruit and soak them in water for several days to allow the gel-like substance that coats the seed to break down. Once the seeds have been cleaned, dry them on a paper towel before storing.

Fermentation - This technique is used for seeds that are produced in fruits with high water content, such as peppers and melons. To save these seeds, remove the seeds from the fruit and place them in a jar with some water. Allow the mixture to ferment for

Continued on page 11

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From page 9

several days, stirring occasionally, until the seeds sink to the bottom. Drain off the water and clean the seeds before drying and storing.

For species that release their seeds from their flowers, such as onions and carrots, you will have to allow at least one plant to live an entire life cycle.

Set aside a few plants at the end of the bed for this purpose, as you will have harvested the rest of the crop long before. This means that you can use the rest of the bed for a new planting.

Allow the plants to flower and allow the flower to mature and dry out completely before cutting it off. Over a container pull the flower to pieces, allowing the seeds to fall into the tub. Remove any remaining flower parts, bag the seed and label. If the flower was cut at the right time, the seed should be dry already.

Choose the right plants: Not all plants are suitable

Choose the right plants: Not all plants are suitable for seed saving. Choose plants that are open-pollinated or heirloom varieties, as these are more likely to produce seeds that are true to type.

☐ Know your plants: Different plants produce seeds in different ways, so it's important to know how your plants produce seeds and which technique is best for saving those seeds.

Plan ahead: Make sure to leave some of your plants to go to seed, rather than harvesting all of the fruits or pods. This will ensure that you have a good supply of seeds for future growing seasons.

Storing your seeds is a most important aspect of seed preservation. Store them on a dry, warm day. Keep them in a cool dry place. Store the seeds in an envelope or resealable plastic bag. Some seed savers use small glass jars, pill boxes or plastic containers. Others avoid plastic altogether.

Make sure that there are no insects among the seeds. The container should be sealed to keep moisture, rodents and insects out. Label it with as much detail as you can, particularly if you want to swap some of





Open pollinated, or heirloom tomatoes produce a lot of seeds. your seeds. If this is the case, it would also be helpful if you could include a photo of the plant and its produce.

Seed swapping is also part of the saving process, and is growing in popularity in South Africa, having been practiced with enthusiasm in other countries for many years.

Here, seed savers gather periodically with their "produce" which they will swop with other savers or sell to the public. In this way they expand their own plantings with new species, or new varieties, while giving others the same ability.

Seed swapping is also an excellent opportunity for gardeners to exchange information, share tips and meet new people. In some cases clubs exist that hold regular seed swapping days. Some are online and on Facebook.







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POULTRY

Snail farmer perfects Chicken-in-a-bag

pair of leading South African snail farmers have applied the same technology used for storing cooked snails to chicken portions, with surprising results. And they are looking for a commercial broiler farmer, preferably with his own abattoir, to enter into full-scale production.

Heather and Stanley Micallef of Benoni initially developed the cook-in-bag system to enable them to easily and cost-effectively store, transport and sell snails countrywide without refrigeration.

Their system involves placing a restaurant portion of six deshelled snails into a retort pouch with a portion of sauce, vacuum sealing the pouch and sterilising the contents through the application of heat in an autoclave.

The resulting package can then be stored, transported and sold at room temperature \sim no refrigeration is needed at any stage \sim and opened, heated and served as required.

The resulting serving is thus far superior in terms of texture and taste to the commonly-used imported canned snails often found in restaurants.

However, the Micallefs acknowledge that snails constitute an offering with a very limited gourmet customer base, and their business took a bad knock during the Covid lockdown years.

Consequently they looked around for a foodstuff that could use the same technology but with a much wider possible market.

And thus they began experimenting with fresh chicken portions.

Stanley Micallef explains that the common view held by bacteriologists and food scientists was that chicken contains far too many contaminating micro-organisms which would render any unrefrigerated chicken unusable unless frozen for storage. "A chicken, basically, contains organisms such as salmonella, among others, from the time it hatches, and many of these bugs lurk in the bones, making them exceedingly difficult to neutralise. As a result, food safety authorities in many countries (the US, for example) do not allow cooked-in-a-bag chicken in any form." By carrying out extensive testing of the product in their own kitchen they perfected a method of autoclaving the pouches for a certain period at a specific temperature, and then allowing the bags to cool on their own rather than chilling them.

These samples were then subjected to batteries of microbiological tests by independent laboratories, the scientists of which were exceedingly skeptical of the outcome, says Micallef.

However, on finding nothing sinister lurking in either the flesh or the bone they had to concede that the method worked and the product was safe for sale



Skinless but bone-in chicken breast from a bag.

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POULTRY

and consumption.

The Micallefs have applied for a patent for the process.

The retort pouches they use are imported multilayered plastic and foil units a bit smaller than A5 in size, much like the Tetra-Pak bags that have been common on supermarket shelved in South Africa for many years. With their foil layer no light can enter which would result in the contents becoming discoloured over time.

The Micallefs have chosen three cuts for the process, namely leg, thigh, or breast. They are packed individ-

ually, while a slightly larger pouch can contain a quarter chicken comprising a leg and thigh. These are skinned and inserted in the pouch which is then vacuum sealed. No seasoning or sauce is added, neither is any preservative of any kind, Micallef explaining that adding sauces would simply add to the cost and "our recipes for sauces might not be to a buyer's taste."

Thus, during the autoclaving process a small amount of "juice" is excreted from the meat, forming what would be the jelly that accumulates in the roasting pan of a conventionally cooked chicken.

The end product, once cooled, can be labelled, packed into cartons and despatched and stored for some months before consumption.

The chicken can be eaten cold, for example in a chicken salad, or one simply heats the sealed pouch in boiling water before opening it and serving with vegetables of one's choice. Or one can add the contents of the bag to a sauce for cook-

ing in whatever way one wants.

The sturdy pouches are more compact than cans and much lighter, meaning many can be packed into even a smallish carton, and sold out of the carton anywhere the vendor chooses.

Although the pouches are imported and thus form a relatively large part of the cost of the process, the fact that they pack compactly into a small space and can be transported and stored for months without refrigeration means that, overall, the cost of a portion of Micallef's chicken will compare most favourably with that of a conventional frozen or chilled piece.

Continued on page 17





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IN THE GARDEN

Let's take a stroll: The walking onion

hey may not be the variet- Another in our series of articles Sampson, curator of the Manie van ies that commercial growers on "orphan" and unusual crop der Schyff Herbarium at the **species, courtesy of the** University of Pretoria, who has made a concentrate on, but there will University of Pretoria's lifetime study of these ultimate heirloom always be "new", old crop species with horticulturalist species. which to expand your food garden. They **Jason Sampson.** Take this month's plant, for example, the are low input, high output "orphan crops"

~ food plants that were important to people before the simplification of the food supply that accompanied the spread of industrial agriculture, and which can, and should, be important again in an ecologically sensitive, smallholder and homestead focused farming community. That's the view of Jason

"Egyptian" Walking Onion.

Of onions generally American cooking teacher, author, and television personality Julia Carolyn Child says "It's hard to imagine a civilisation without onions; in one form or another their flavour blends into

POULTRY

From page 13

The Micallefs believe their long-life chicken will appeal to a wide range of consumers, including in commercial terms rural residents who lack any form of refrigeration, hikers, bikers, campers and yachtswhom nutritious protein that is easily carried and prepared is a must.

And, given South Africa's current power crisis the packaging overcomes the problem of spoilage should

men, the armed forces, and emergency personnel for



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one's refrigeration fail, either in a shop or at home. Then, looking around the world Micallef says "a container or two of our chicken would have been a Godsend in, for example, Turkey following the earthquakes. Or for victims of flooding, cyclones and other natural disasters. Not to mention that chicken, an almost universally-consumed source of protein, could save countless people from hunger and starvation in countries such as Sudan."

So what does the chicken taste like? In a presentation to the Smallholder last month Micallef opened a bag containing a plump breast that was processed in August last year and stored at room temperature since, and poured the contents on to a plate. Thus, cold chicken. And it's no different to a portion of chicken that one may have cooked last night and allowed to cool for eating at lunchtime. It looks like chicken, smells like chicken and tastes like chicken, and one would be very hard-pressed to discern any difference to a piece one had cooked at home. For more information call Stanley Micallef on 082 457 2951 or email dragon@dragonglass.cc. 🟶



IN THE GARDEN

From page 17

into almost everything in the meal except the dessert."



Foliage of a clump of red walking onions in the author's vegetable garden

Sampson adds that onions are an interesting topic in and of themselves. "The genus *Allium* (which includes leeks and garlic amongst its ranks) has given the world a number of different species of pungent, edible bulb and leaf crops which, due to similarities in growth and taste, shelter under the umbrella name of 'onion', and it can sometimes be very

difficult as a botanist to be exactly sure what species, hybrid or other one is working with in a cultivated selection."

Complicating this is the very long history humanity has with onions. Wild species were harvested by hunter gatherer peoples since time immemorial. One of the first trade items mentioned between the Khoekhoen peoples and the Dutch settlers at the Cape were indigenous wild onions (*Allium synnotii*), while *Allium cepa* (the common biannual bulbing onion and the related perennial shallot and potato onion) has been domesticated in Western Eurasia and the Near East for so long that its original, wild progenitor species is unknown.

The Egyptian walking onion has a fascinating history, and origins rooted deep in ancient trade between civilisations and interwoven with the life stories of entire peoples. Although it bears a name suggesting it has an African source, the story is much more complicated, and has taken genetic research to untangle. There is however no doubt that this little-known crop should be much more widely grown than it is, and Sampson hopes this article inspires the reader to search out and try this gem of a plant.

Although there are stories that walking onions were farmed in ancient Egypt, science has a different tale to tell, reflected in the Latin name of the plant *Allium* x *proliferum*, the "x" in the name indicating a hybrid origin.

This type of perennial onion (there are different clones, but they are united by similar habits) is a hybrid between two groups of domesticated onions that would never have happened if it hadn't been for human agency and long distance trade, and further collection and selection for its own, extreme usefulness.

Genetic studies have proven that walking onions are a cross between *Allium cepa* (the common bulbing onion) and *Allium fistulosum* (spring or Eastern leaf onion, sometimes known as Welsh onion from the Anglo-Saxon word for foreigner, in this case more specifically meaning 'Roman', who likely introduced



Walking onion topsets in various stages of growth. These bulbs form on the end of the flowering stalk, and have never seen the ground!







IN THE GARDEN

this species to Europe from the Far East). Both types have been spread from their origin, eastward for the former, and westward for the latter, along the Silk Road, with naturally occurring hybrids possibly being found, and selected in Northern India/Pakistan in early medieval times. They remain very popular today on the Indian sub-continent and are commonly grown by small farmers.

These selections proved so useful to the nomadic Romani peoples that they spread them through Europe during the Middle Ages, where they became widely grown, and from there they made their way into the Americas in time, becoming an important household crop in homestead and settler communities for generations. The "Egyptian" name stems from the old-time story that the Romani were "the princes of Egypt", (which is also the source of the better known, sometimes considered disrespectful, name for these peoples, the Gypsy).



White walking onion topsets ready to be cut up into a dish.

Walking onions are also known as lazy man's onions, because they are quite simply so easy to grow. Pest and drought resistant, they tend to persist in areas where they have been planted, and proliferate in two ways: one is clumping at the bulb level, the second is the formation of a cluster of small bulbs, or "topsets" where flowers would normally

be in most onions. It is these topsets that make the plants as useful as they are to homestead farmers, as well as gives them the "walking" label, as these stalks with onions on the end fall over and grow in time, and a clump of onions can "walk" about 1,2m a year if the topsets are not harvested.

There are two variety types of walking onions in South Africa. The red bulb types are the most com-

mon. These produce smaller bottom bulbs that are fairly elongated like a leek, and have a very strong flavour in all parts. These will often produce topsets on top of topsets, giving them yet another name, "tree onions". They are also more or less evergreen if the climate is warm. Most growth is in

summer, however.



Newly established mother plant block of red walking onion.

The second type produces large white to yellow skinned bulbs, and topsets with a pronounced midsummer dormancy and a strong winter growth cycle, although the large bulbs are only developed over early summer after topsetting. This plant is very shallot or potato-onion like and seems to store relatively well. The flavour is also milder than the red. Unfortunately, this type is still relatively hard to find, but there are efforts by growers to proliferate the

It is the topsets that make this onion so attractive to nomadic people and homesteaders alike, as producing onion seed, and growing bulb onions from seed, is a tedious and long process. Topsets can be planted in clumps, and produce decent bulbs for harvest in a single season, producing more topsets during the season, while being harvested for leaf (spring onion) material the whole time.

Topsets can also be used in the kitchen. Some clumps will develop good, pickling onion-sized bulbs in a topset, and good fertilizing will ensure a good harvest of these.

Seed grown bulbing onions can be a bit of a chore as they are very daylength sensitive, meaning you need

Continued on page 21







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From page 19

to choose a variety appropriate for your latitude, but walking onions don't care, and any one variety can be grown pretty much anywhere with success, helped by the plants being relatively temperature immune as well. They are grown in areas where the ground freezes in winter with as much success as they give in the Lowveld, although they do tend to be deciduous in the former.

Like all onions they will perform best in full sun with



Red walking onion topsets planted in November growing strongly despite heat wave conditions in Pretoria in January.

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IN THE GARDE

well fertilized soil rich in organic matter. Producing a constant supply of both bulbs and leaves for the kitchen involves thinking of these plants as a shallot of sorts.

One should maintain a mother plant bed of mature bulbs and clumps which is only split when they get too dense. Topsets should be planted out without splitting as soon as they are fully developed and the stalk holding them aloft starts to bend to the ground, and allowed a season to develop for the kitchen, after which they can be harvested bulb and all.

Bottom bulbs can also be used to start new clumps of onions, and the mother bed can be used as a source for these in early autumn for the white variety, and most of the growing season for the red. Clumps and single bulbs that develop from these will also be ready for harvest in January through to March. You can harvest new foliage for spring onions at any time, and one can also produce blanched necked 'negi' onions with particularly the red walking onion types common in South Africa by hilling the soil

The plants are also remarkably tolerant of weed competition, which most onions have problems with, and are pest and drought hardy. Continued on page 22

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SMART SMALLHOLDER

Mentors & vets lead to this farmer's success

uccessful sheep farming does not happen overnight. This is the message of Makgetha Ngwepe of Randfontein, Gauteng. Ngwepe began sheep farming in December 2018 and over the last few years has learned and grown into a successful small farmer.

"Needless to say, there were teething problems from low productivity percentages as result of inadequate nutrition, diseases, and improper management," says Ngwepe.

Beginning with 30 South African Meat Merinos (SAMM) ewes and one Ram, in 2019 only 20 of the 30 ewes gave birth to singles. Of these, about 80% were weaned. Ngwepe says, "The operation was

inefficient and a radical adjustment had to be made." Ngwepe says he had the coaching and mentorship of a highly experienced sheep farmer, as well as a state veterinarian. But even despite this, it was a journey to improve the overall efficiency of the operation given the lack of adequate support and limited resources. "Nonetheless, with the help of my two coaches I decided to conduct research on aspects that have bearing on the productivity of sheep in the kind of system one I was trying to implement i.e., intensive sheep breeding."

The research unearthed a number of aspects as major contributors to the output in an intensive sheep breeding concern:

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IN THE GARDEN

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Topsets and the bottom bulbs of walking onions can potentially last for months if fully developed and kept somewhere cool, dark and dry, but it is best to keep your plants growing actively as long as you can. Propagation material is available from certain seed savers and seed merchants during the growing season, and certain speciality nurseries are beginning

plants in bags. "Perennial onions are a particular favourite of mine," says Sampson, "and I hope that this article will inspire you to grow your own walking onions, and maybe some growers to experiment with other types of long lived, clonal onions, such as potato-onions, which are virtually unknown in South

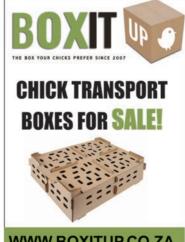
to offer established



White walking onions showing a good clump of shallot sized bulbs at the end of the growing season

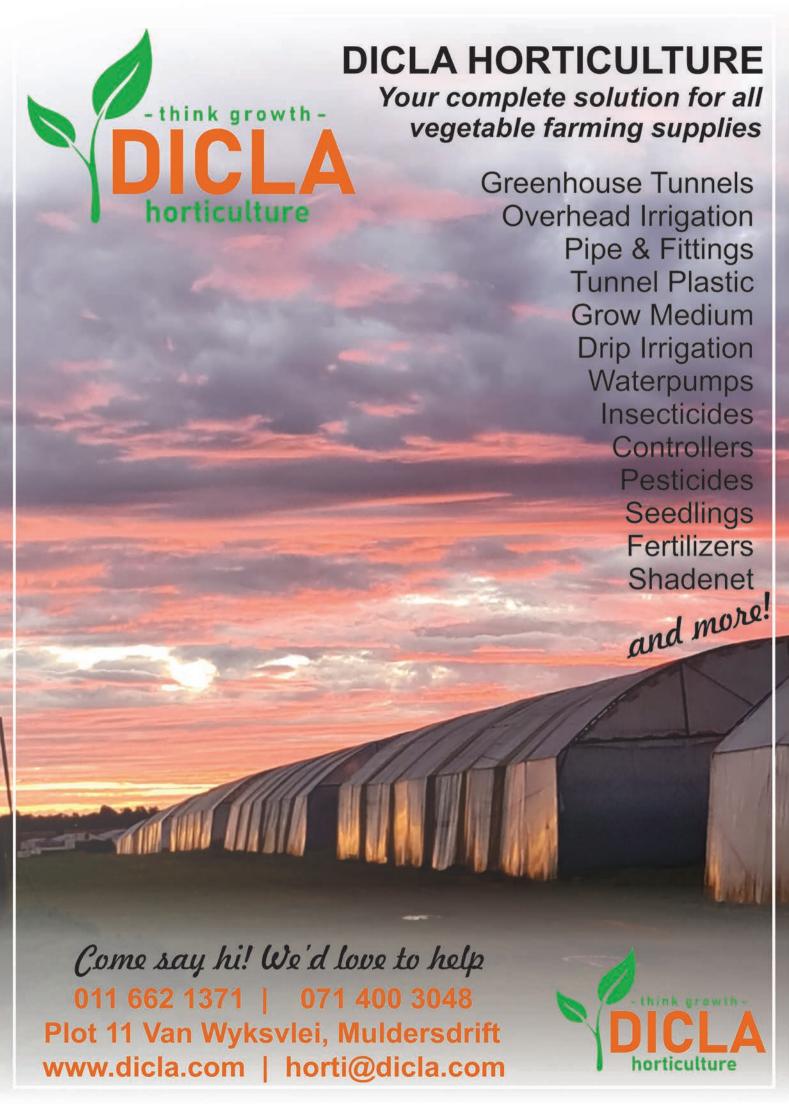
For more information on this, or other orphan crops, please contact Jason Sampson at jason.sampson@up.ac.za. 🏶





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From page 22

☐ Animal health and effective disease monitoring: For animals to perform at their peak it is a no brainer that they need to be healthy. "To achieve this we had to book 'quality time' with the vet. We used this time to better listen, note, absorb and strictly implement the instructions of the vet, especially with regards to the ability to control ticks, insects, parasites, and handling of abscesses." Additionally, Ngwepe kept a very close eye on his flock to spot any clinical signs and promptly report these to the veterinary services team. Ngwepe praises the vet team who he says have selflessly availed themselves via text messages, calls, and physically.

☐ Animal nutrition: After engaging with his mentors, as well as some sheep stud breeders, Ngwepe came to the realisation that this component contributes up to 80% of the breeding process. This included flush feeding prior to mating, to maintaining high nutrient diets during mating for ewes and rams. "We also learned to prepare for winter by planting oats (hawer), a winter crop, in order to maintain the condition of our animals."

☐ Investment in good rams: Rams carry the majority of the genetic qualities of the newly born and because he was interested particular in a high carcass weight, Ngwepe discovered through research that

SMART SMALLHOL

crossing SAMM ewes with Dormer rams was a winning combination. He says this was corroborated by two different stud breeders of SAMM and Dormer breeds who live in Randfontein and Frankfort respectively.

"We currently use fertility tested Dormer rams



Makgetha Ngwepe of Randfontein, Gauteng.

sourced from a Dormer stud in Frankfort, Free State. Prior to this system we weaned more or less about 90 between 2019 and 2021." However, these animals took up to eight months to reach a marketable weight. "We sold the majority of these to reinvest in the project and a few others we retained as replacement ewes," he explains.

Continued on page 24

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SMART SMALLHOLDER

From page 23

According to Ngwepe, the genetic combination of Dormer rams crossed with SAMM ewes produces lambs that develop much quicker with 90 day weaning weight averaging 36kg. These animals will likely only require an additional six weeks of feedlot to raise them to a minimum marketable weight of approximately 45kg.



The team of veterinarians, headed by Dr Rob Fouché, from Gauteng Dept of Agriculture & Rural Development.

Management and record keeping: Record keeping in intensive sheep breeding can never be overemphasised. This is a complex system that requires the breeder to observe each aspect from mothering qualities of ewes, birth weights of lambs, lambing challenges, twin births, etc. "We use a kidding

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register to record every new lamb and we monitor their development over a 90 to 100 day period," Ngwepe states. In this way, he is able to make informed decisions about which ewes and lambs to cull and dispose of, ensuring he keeps highly productive ewes only. Another aspect of management is housing. This plays crucial role in protecting ewes and new lambs from elements such as rain, wind, and too much sunlight. "Probably even more important are lambing pens that enable the new lambs to be properly bonded with the ewes over a period of at least ten to 14 days before being released to mix with the rest of the flock," Ngwepe explains. The third aspect of project management is a process of synchronisation which Ngwepe first used in the 2022 lambing season. He uses artificial insemination kits produced by local manufacturer Ramsem to synchronise his ewes in order to optimise production. This synchronisation, Ngwepe says, helps get a group of ewes ready to accept the rams almost immediately within a 24 to 36-hour period. With this synchronisation, lambs are born within a maximum of two weeks of each other. The vaccination process becomes easier and more effective. And the breeder is able to wean and market the lambs as a batch. Ngwepe says his main lesson for someone starting out in sheep farming would be that "Intensive sheep farming can possibly yield a high return on investment if done properly and with good resources from grazing land, water resources, housing and handling facilities, and a great deal of support."



One of Ngwepe's animals.





LIVESTOCK

Black soldier fly: A new source of protein?

n their quest to become more self-sufficient, smallholders might consider black soldier fly farming to create a source of protein-rich feed for poultry, fish or pigs.

The black soldier fly (BSF) (Hermetia illucens) is not a pest. It looks more like a wasp than the common housefly. It is quite shy and prefers rural or semi-rural areas. It also does not have mouth parts, so does not bite humans or animals and therefore cannot transmit diseases

But it is the larvae of the BSF that is of value as a feed source. The female fly lays about 500 eggs after mating. She lays them near the food source. The eggs start to hatch after four days. The larvae are wingless and worm-shaped, and look similar to mealworms. They feed on organic waste and reach their maximum mass in six days.

According to The Behaviour Change Agency, about 45% of South Africa's total available food supply that enters the food value chain is wasted. So creating a BSF larvae farm will repurpose nutrients and in a small way help to address the effect of food waste rotting in refuse dumps.



Hermetia illucens, Black soldier fly.

The larvae also feed on animal faeces, which helps to clean up your smallholding.

At the other end of the process farming larvae means that we can be less dependent on imported feedstuffs such as soya and fishmeal.

Even more importantly though, is the fact that the larvae are highly nutritious. Their protein content can be as high as 50% and they are also a rich source of other nutrients, such as calcium, lipids and amino acids.

They can be fed live to poultry. The chickens will find them an interesting change from their usual feed. The larvae can also be frozen, but must be defrosted before being fed to poultry and other animals. You can also dry them, so that you have supplies during winter. Commercial larvae farmers turn them into a highly nutritious oil, which is easy to mix in with other feed.

It is guite easy to set up a small DIY, backyard larvae "farm". You will need a large flat-base plastic bin. You can also upcycle scrap or pallet wood to build a wooden bin. Place the bin in a bright, sunlit area. Drill some small holes in the bin for drainage. Place the bin on bricks, to raise it off the ground. This helps with circulation of air in the bin and prevents heat from building up.

Line the bin with bedding to prevent the interior from getting too wet. You can use straw, wood shaving or newspaper.

Then spread your starter feed. This can be organic material includes food scraps, fresh fruit or vegetables, rotten food, coffee grounds, kraal manure, pet waste or waste plant material. It is recommended not to use dairy or meat products.

Take two wooden planks which are about half the length of the bin and about 15cm wide. Insert them

Continued on page 26





IN THE KITCHEN

How to reuse eggshells

Ider readers will remember the phrase "waste not, want not" and most smallholders find uses for things that many townsfolk simply throw away.

Take eggshells, for example.

Obviously they can be put in the compost, where eventually they will break down and help to provide

nutrition to the plants in the garden. However, you can also roughly crush them and sprinkle them on soil where you have a cutworm, snail and slug problem.

Eggshell powder can be sprinkled on ants and insects that are eating your vegetables and garden plants. The shells are also alleged to deter cats from using

Continued on page 27

LIVESTOCK

From page 25

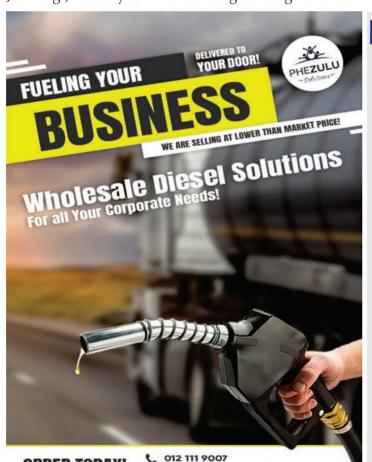
into the bin so that they are sticking out over one side of the bin. Under the planks, next to the bin, place a bucket.

Place some cardboard over the feed. BSF do not lay eggs on the food. Wait for the BSF female to be attracted by the scent of the organic waste. She will lay eggs, the larvae will hatch and, when they are about 25mm in length and 6mm wide, they will change into prepupae. Their mouth parts change to an appendage that is used for climbing and they will climb out of the bin using the planks. They will drop into the bucket and you can then use them as feed. Alternatively you can also obtain starter kits of BSF larvae from suppliers such as The Silkworm Shop or Jozi Bugs, which you will allow to go through the



BSF larvae.

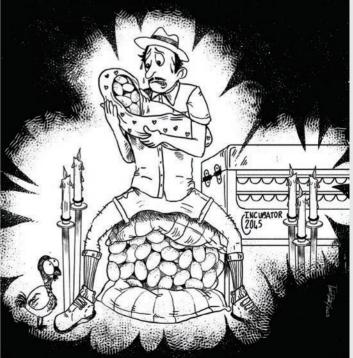
whole life cycle of becoming prepupae, turning into adult flies, laying eggs and hatching larvae.



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From page 26

your garden as a litter box.

You can till the crushed shells directly into the soil as an additive. Some people add them to potting soil. When dug into the soil in your house plants, they keep the soil aerated and loose.

Another use in the garden is to fill washed shells with



Growing seedlings in eggshells.

potting soil and sow seeds in them. They can then be planted, shell and all, into the garden when the seedlings have grown. You can use an egg carton placed on a windowsill to start a dozen tomato seedlings in shells before transplanting into the garden in the spring. Eggshells are, of course, a good source of

calcium. Wash the shells and bake them at 180°C for about twenty minutes. Once they have cooled, crush them in a blender or coffee grinder to make eggshell powder. You can use a rolling pin or mortar and pestle to grind them. A teaspoon of this can be added to your morning smoothie or sprinkled over your breakfast cereal or you can put some in your soups and stocks.

It can be added to your pets' food. A reader has reported good results from two teaspoons mixed in with the dog food to help clear diarrhoea. It can also be mixed into your chicken feed. Obviously it supplements the calcium needed for strong eggshells. It is also good for the circulatory system, the nervous system, the cardiac system and the digestive system of the laying hen.

All livestock benefit from calcium supplementation, as calcium plays a major role in the absorption of nutrients, as well as in blood clotting. Calcium encourages good bone development in your animals and improves muscle function and immunity. Apparently fresh egg membranes applied, then allowed to dry, will draw minor infections, including splinters, pimples or boils, and will help heal

Complete Beehives professionally made and dipped in hot waxol. Brood box and super all with frames and aluminium lid. Midrand Tzaneen Porky Scriven Jason Scriven 082 791 3393 082 604 5828 escriven@mweb.co.za

IN THE KITCHEN

scratches. People keep some shells in the freezer and when necessary, put them in a blender with some water. Blending them will clean and sharpen the blades. The used mixture can be added to the compost or animal feed.

Roughly crush shells, add them to hot soapy water and allow them to soak for a while. Pour it into narrow vases or other difficult to clean containers and shake. The shells act as an abrasive to move the dirt. A mixture of bicarbonate of soda, finely crushed eggshells and just enough warm water to make a paste can be used to remove stains from basins, showers or baths. It also removes food stuck on pans or pots.



Eggshells can be used as fertiliser.

The artistic among us can paint the shells or even carve them. Eggshells are used in mosaics and other mixed-media works. They can also be used to make decorations and dream catchers. Blue duck eggs, unusually coloured eggs such as those of the different Maran breeds or Silverudds and speckled shells, such as quail eggs will be popular with artists. If you have access to ostrich or emu shells you can make lamps, bowls or jewellery out of them.

Home decorators can add crushed shells to paint which will create a textured effect on walls or furniture.



EVENTS

Mushroom Growing Course

Learn about growing button and oyster mushrooms. Course objectives include understanding the uses of mushrooms, spawn making, substrate preparation, fruiting, harvesting and handling, packaging and marketing. At the end of the course you will be able to state dietary and commercial importance of mushroom production, list and distinguish different types and mushroom species, produce healthy mushrooms, harvest, pack and store mushrooms, and source lucrative mushroom markets.

The course will be done both online or in-person, so those unable to attend in person can still take part.

Date: In-person training: 18 March or 22 April, 08h30 to 17h00.

Online course: 25 March or 29 April, 08h30 to

13h00.

Location: Rietkol Primary School, Eloff Agricultural

Holdings, Delmas.

Cost: R1000 for in-person training. R500 for virtual. **Contact:** Call or WhatsApp: 071 820 5127/073 855

7376/071 265 8080

Introductory Course in Poultry Production

Learn about the basics of broilers, layers and freeranging chickens including equipment requirements, disease management, basic breeding processes, and more.

Date:8 to 11 May, 2023

Location: Agricultural Research Council (ARC) Irene

Campus, Pretoria. Cost: R3 200.

Contact: Mpho Makhanya on makhanyam@arc.agric.za

Bloem Show

Bloem Show successfully combines commercial

activities and agricultural. See the largest open air Saddle horse show in the world. The show is also host to 21 agricultural championships, with more than 5 000 livestock competing. There will be more than 350



exhibitors, a combination of entertainment, a creative crafts section, a dairy product show, exciting Fun Fair and the best stud breeders competing at the agricultural section. The Dairy section attracts entries from across the country and from all national brands, where they compete with cow, goat and sheep milk products. Exhibitors include agricultural equipment, health products, lifestyle suppliers, clothing, outdoor living products and more. A wide range of food stalls and entertainment will be available.

Date: 27 April to 6 May, 2023

Location: Showgrounds, Curie Avenue, Bloemfontein **Cost:** Adults R100. Senior citizens (over 60 yrs),

Students (student card) and children (6-18 yrs) R50

Children under 6 yrs free

Contact: Visit www.bloemskou.co.za for more info or

contact info@bloemshow.co.za

Introductory Course in Small Stock Management

Learn animal husbandry, how to handle and move farm animals, demonstrate an understanding of healthy farm animals, advanced breeding practices for farm animals, and more.

Date: 22 to 26 May, 2023

Location: Agricultural Research Council (ARC) Irene

Campus, Pretoria. Cost: R3 200.

Contact: Mpho Makhanya on makhanyam@arc.agric.za



THE BACK PAGE

Political correctness, wokery & aliens

diplomat Roald Dahl is best known for his slew of quirky childrens' books, many of which were as well-suited to an adult audience as they were to the intended nippers.

For almost entirely they were thoroughly politically incorrect. For example, baddies and ne're-do-goods in the narratives were described using adjectives that pointed out explicitly just how horrible and nasty they were. Fat characters were described as "fat", and ugly people as "ugly". Thus the reader was left with no uncertainty as to the role of the character concerned in the plot. Happily, almost inevitably the fat or ugly characters would meet a sticky end.

Dahl's books were written and published, and read to huge acclaim, in the middle of the last century, before political correctness was a thing.

And thus they shaped and affirmed the intellects of child readers then who are now well into middle and old age (oh, dear. I should describe that as "sunset years" so as not to offend the sensitive).

Today's generation, however, is desperate not to offend anyone. Thus, in the face of so-called "Karens" (those awful, stupid, often misinformed loudmouthed women who start ranting and raving and arguing in shops and at neighbours) we have the "woke" generation, very carefully avoiding anything controversial and pretending to themselves that their world is full of sweetness and light if they reduce everything to the blandness of cold porridge.

So when Puffin Books, Roald Dahl's publishers, announced they were re-releasing his books they added that the text would be edited to remove Dahl's more gritty descriptors.

For example, fat characters would be described as "heavy" and ugly characters would be described as "unappealing." And so on.

ritish author, wartime fighter pilot and reluctant Absolutely daft. And, frankly, an insult to most of the reading audience, not to mention the author himself. Dahl wrote what he wrote at a time when the words he used conveyed the meaning he wished to convey. And if a prospective reader doesn't like the idea of a fat villain or an ugly witch there is a simple solution:

> move past the selection of Dahl's works in the bookshop or library and seek out something blander.

To be fair to Puffin, heeding the enraged howls of protest from curmudgeonly old people that their brain-fart idea generated, a little common-sense was found and they will now publish two versions, one the original texts as written by Dahl ? and the other the sanitised

version for the new lily-livered reader.

But let's be clear, language is a living thing, and English is no exception. New words are being dreamed up all the time, and old words change meaning.

Another famous English children's author of Dahl's time (or, more correctly, authoress), Enid Blyton, often described the happy bands of children in her books as "gay" when they enjoyed a carefree picnic or walk in the country before going on to solve some crime or mystery.

She didn't mean they were a bunch of homosexuals out on a frolic, and Blyton's works are now very much out of favour among the woke reading public.

It's no wonder that we earthlings have never had aliens visiting our planet. They've simply flown on by to somewhere that has more intelligent life forms than us. And less pollution, too.

