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Tree of the Month

GSSA Congress 59

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and how have perceptions of
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Advancing Rangeland Ecology and Pasture Management in Southern Africa

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GSSA Congress 59 Presidential Address

Susi Vetter

Current Address: Rhodes University

Good evening colleagues, members, and guests. Welcome to the annual congress of the Grassland Society of Southern Africa. I want to extend my heartfelt thanks to the Local Organizing Committee, the Council, and especially to Minette for her exceptional contributions. A special thanks to those who contributed to the organization of Congress but aren't here in person – notably Sindi, the chair of the scientific committee.

Congrats to Minette on the birth of her baby, and we wish her and her family lots of happiness! And a big thanks to Linda who took the reins of the administration during Minette's astonishingly short maternity leave.

As the GSSA approaches its 60th birthday, I find myself reflecting on my own journey with the society. I attended my first Congress in Cedara in January 1998, 25 and a half years ago. Not only have I been involved in the GSSA for nearly half its existence, but it has also been exactly half of my own life! The GSSA has been a source of many friendships, professional support, and intellectual growth.

From those earliest days, the GSSA became a network of colleagues who mentored, supported, and provided ideas throughout my career. I've seen friendships, collaborations, and even marriages emerge from our interactions at congress, workshops, and other activities. Quite a few of my dearest friends from those early days are now retired or have moved into different careers, and many newer faces have joined the GSSA family. It is my sincere hope that for all of you, the GSSA and particularly its annual Congress proves to be equally supportive, stimulating, and welcoming.

But why stop at coming to the Congress? There are many ways to be involved in the society, and I encourage each of you to consider contributing.

I first served on the GSSA Council in

2006 as an additional member, and from 2008 until 2013 as the editor in chief of the African Journal of Range & Forage Science. I have been on the organizing committee of a couple of Congresses, and now I am honoured to be standing here as the GSSA president. Serving on Council during these different periods has shown me the passion, dedication, and skill that go into running our society. This all happens on a voluntary basis, except for the administrator and the editor in chief who receives a stipend. It is truly humbling to consider the time, energy, and expertise given over the years to ensure our society remains intellectually vibrant, relevant, and financially sustainable.

I may be making this sound like a slog and sacrifice, but being part of Council has been extremely rewarding. I would like to encourage newer and younger members and attendees to join the society and become more actively involved. If you aren't a member yet, join the society. Make yourself available to serve on Council and/or the editorial team of the journal, become a regular at Congress, send your students, encourage colleagues, and contribute ideas.

Next year, the GSSA turns 60. There will be a very exciting anniversary Congress – watch this space and plan to come! There will be a special issue of the journal that synthesizes the scientific contributions made in the society's journal, the AJRFS, and its previous versions.

This has revealed the substantial amounts of knowledge, much of it directly relevant to management, created by society members or published in the society's journal.

Over the last three decades, the GSSA has subtly changed from having a primarily agricultural veld and pasture focus to including more fundamental ecology relevant to rangeland managers, and significant growth in the biodiversity and conservation fields. Apart from national and provincial departments of

agriculture, SANParks and provincial conservation, SANBI, and SAEON regularly support our Congress. There is a lot of scope to build on these different pillars in both the research contributed to our Congress and journal and in the relationships built and maintained.

Preparations are underway for the 2026 IYRP, a global effort to highlight the great ecological, economic and cultural values of rangelands around the world. Our own GSSA member and former president Igshaan Samuels is co-chair of the IYRP international support group and others, myself included, are part of this support group.

Let's think about ways in which we can do more to support rangelands and livestock farmers in South Africa, and how we can contribute to the international effort. Next year many of us will be at the IRC in Australia, where the IYRP will feature big, and I'm sure we will return with good ideas and inspiration. I also know that plans are being made for Congress 61 in 2026 to link up to the IYRP, so again – watch this space and better still, become involved!

Reflecting on the Society's successes over the last 25 years, key improvements include the professionalization of the administration and the great work by our treasurers, Justin and now Linda, who have steered the GSSA to financial sustainability.

The journal has gone from strength to strength, becoming properly international while remaining rooted in African rangeland ecology and management. We now have an online submission system, increased circulation, indexing by ISI and Scopus, and a rising impact factor. Support your journal – submit your quality work, agree to review, and join the editorial team.

The Congress remains the cornerstone of our society, contributing to its financial sustainability and facilitating social and intellectual exchange among its

members. We pulled off an impressive feat during the pandemic by turning the planned congress in the Eastern Cape into a virtual Congress. Lessons learned have translated into highly successful hybrid offerings, one of the best we have in South Africa.

The research skills and policy & practice workshops have also gone from strength to strength, providing immense value to our professional community. We had a fascinating workshop today on using AI in research, opening our eyes to some amazing possibilities and potential pitfalls.

Some activities have quietly faded out, such as the Peter Edwards Award for the best conservation farmer. Perhaps

we can consider a suitable model to resuscitate this in some form. Prestige farmers' days have also become a thing of the past. It is worth asking ourselves if as a Society we are sufficiently in touch with the changing profile of livestock farmers in South Africa and whether our research, training, and other activities could be more valuable to these constituencies.

The GSSA's biggest strength has been its incredible diversity, bringing together academics and policymakers, agriculture and conservation, and gurus and students.

Back in the early 2000s, when most professional societies were still predominantly white and male, the GSSA was

electing women and black presidents and council members. Let's think about how to harness this diversity in expertise and experience to grow the GSSA into its 60s.

In conclusion, the GSSA has come a long way, with significant achievements and a bright future ahead. We must continue to support and grow our society, embracing new members and ideas while maintaining our strong traditions.

Thank you for your attention and dedication to the Grassland Society of Southern Africa. I look forward to our continued journey together and to celebrating our 60th anniversary next year with renewed vigour and commitment.



NATIONAL CONVENTION BUREAU



Congress 59: The Award Winners

Best Paper Published in the African Journal of Range and Forage Science

Gina Arena, Tim Hoffman, Helga van der Merwe, Tim O'Connor

Best Platform Presentation

Susanne Vetter

Best Presentation by a Young Scientist

Lindokuhle Dlamini

Norman Rethman Award for the Best Pastures Platform Presentation by a Young Scientist

Sesethu Sokoko

Best Poster

Helga Knoetze

Best Research Proposal Poster

Stephni van der Merwe

Faux Pas

Ntuthuko Mkhize

Most prolific online adjudicator

Percy Sekwadi

Some very special recognition awards were given out at this congress:

Meritorious Award in recognition of Exceptional Service to the Society

Linda Kleyn

Linda has served as the GSSA's Treasurer for many years. This is probably the portfolio of most consequence to the Society, and more than any other portfolio it requires specialist expertise and a sustained commitment ensuring that financial management is carried out throughout the year. In addition, the best Treasurers also provide strate-

gic direction to the Society, to ensure it maintains and increases its financial viability.

Linda has carried out these duties with great distinction and has agreed to continue in this portfolio. She has helped steer the GSSA's finances through the challenging time of the Covid-19 pandemic and to ensure the Society's financial recovery.

In addition to her duties as Treasurer, Linda has contributed in other ways, always offering to assist before being asked:

- She has led and co-facilitated several GIS workshops offered by the GSSA, which have contributed financially to the GSSA as well as to its capacity-building mandate and reputation.



- She stepped in as acting administrator after the previous administrator's resignation and before the appointment of the current administrator, and during the current administrator's maternity leave. In both instances, she used her formidable grasp of the GSSA's functioning to keep key functions of the Society running and has worked closely with the current administrator to ensure continuity.
- She (wo)mans the Zoom during the hybrid Congresses, a considerable commitment of time and energy!

The contribution of time, expertise and commitment to the GSSA shown by Linda is exemplary; all the more so considering that she is self-employed, and this has all been done unremunerated (compared to many of us whose time doing this kind of professional involvement is covered by employers at universities, government departments or research institutes).

With her remarkable cheer and can-do attitude, Linda has over the last years truly been the rock that the GSSA Council and administration could rely on whenever times were difficult. I am not alone in recommending her for the GSSA's Meritorious Award for her outstanding service to our Society.

(Written by Susi Vetter)

Prestige Award

William Bond

The Prestige Award recognises people who through their research have made a significant and distinguished contribution to the understanding and management of rangelands.

William Bond is a world-renowned ecologist who has played a key role in the (to many of us, taken-for-granted) recognition that fire and large herbivores play a crucial role in maintaining the structure, biomass and floristic composition of vast ecosystems such as grasslands and savannas, which in the absence of these factors would in many parts of the world be forest or closed-canopy thickets. He has trained, inspired and collaborated with many scientists and played a critical role in shaping the fields of savanna and fire ecology. He has also played a key role in adding fire to the important field of trophic ecology.

Throughout his career, William has been acutely aware of the importance of research to inform and influence conservation, management and restoration.

His work has highlighted the importance of fire and herbivory in maintaining the structure, function and diversity of savannas and grasslands, and in re-

cent years he has advocated strongly against tree planting in grasslands and savannas as a nature-based climate solution.

William has published over 250 papers, which have nearly 66,400 citations. His h-index is 113 (according to his Google Scholar profile).

From the website of the Royal Society (UK) who elected him as a Fellow in 2021:

"William Bond is a South African ecologist and a world authority on the ecology, biogeography and evolution of open (non-forested) ecosystems. He has helped show the ancient origins of these systems contradicting the notion that they are the result of deforestation.

William has explored both physical and biotic controls on the distribution of these systems using a variety of tools, from remote sensing and global veg-

etation models, to field studies and glasshouse experiments.

He has revolutionized the basic conceptual framework of global biogeography by showing how animals and fire interact with climate to shape the distribution and structure of terrestrial ecosystems.

His work has policy implications challenging global plans to afforest large areas of open ecosystems for carbon capture.

William is an Emeritus Professor in Biological Sciences at the University of Cape Town. He served as Chief Scientist for the South African Environmental Observation Network from 2014-2018. He is a Fellow of the Royal Society of South Africa and a Foreign Associate of the National Academy of Sciences of the USA."



GSSA Council Members 2024/2025

Portfolio	Name and surname	Current Address
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Chair - Organising Committee Congress 60	Kevin Kirkman	University of KwaZulu Natal
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Additional member	Thulisile Jaca	South African National Biodiversity Institute
Additional member	Sindiso Nkuna	University of KwaZulu Natal
Chairperson of trust	Nicky Allsopp	SAEON Fynbos Node
GSSA Administrator	Minette van Lingen	Grassland Society of Southern Africa
African Journal of Range & Forage Science	Minette van Lingen	Journal Administrator

Figure 1. The Cape beech.

Image: <https://www.inaturalist.org/observations/158121605>

TREE OF THE MONTH

Rapanea melanophloeos

Cape beech, Kaapse boekenhout, tree no: 578

Author: Marnus Smit | zmsmit.denc@gmail.com

Northern Cape Department of Agriculture, Environmental affairs, Land reform and Rural development.

The Cape beech is a medium to large evergreen tree that usually grows 4 -14 m with a maximum height of 20 m but may also grow as a bush. It is widely distributed throughout the higher rainfall regions of southern Africa, from the Western Cape, along the eastern escarpment and up to Zambia. The species is typically found growing in mountain valleys, coastal forests and bush clumps. The species name "*melanophloeos*" is a reference to the dark or black bark of the species. The Cape beech is one of only two species in the genus *Rapanea* that occurs in Southern Africa, the other being the endangered *R. gilliana*.

Diagnostic features

- The trunk is straight and cylindrical and often covered in lichen.
- The thick leathery leaves are dark green above and light green below.
- The small whitish to creamy yellow flowers occur in clusters on the branchlets and may be present from June to December.
- The fruit are small one-seeded berries, that are initially green but turn purple when they mature.
- The young bark is greenish to light grey while the older bark is darker brown.



Figure 2. The berries are distinctly purple when mature.

Image: <https://pza.sanbi.org/rapanea-melanophloeos>

Ecology and uses

The fruits are eaten by birds, insects, baboons, monkeys and wild pigs and are the main dispersers of the seeds. The flowers attract various insects. The Cape beech is an important and common pioneer that is often found adjacent to forests as well as exposed mountain slopes.

The bark, and to a lesser degree other parts of the plant, is widely used in local medicine for respiratory problems, stomach, muscular and heart complaints. The bark can also be used for tanning. The very dense wood is hard and therefore excellent for furniture making. It is often used as a screening plant against strong coastal winds. It can also be planted as an ornamental and grows easily from the seed. Care should be taken where trees are planted as the roots and new suckers can sprout and damage paving.



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Figure 3: Illustration of the leaves. Image: Sally Adams <https://www.inaturalist.org/photos/22852456>

What is the grass – and how have perceptions of grassland changed over time?

Craig Morris

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"A child said What is the grass? fetching it to me with full hands; How could I answer the child? I do not know what it is any more than he" (Walt Whitman, 1892, Song of Myself, in Leaves of Grass).

In 1984, as a newly enrolled agrostologist in training at the former University of Natal, I knew the answer. Grass (family Gramineae, now Poaceae) – a tufted, annual or perennial, rhizomatous, or stoloniferous herbaceous monocotyledon that is adapted to regrow after grazing and loves being burned. It was the verdant stuff that coated the hills, slopes, and dales of the Drakensberg where I hiked in my youth, and the nutritious forage on which the two muscular Bonsmara steers were standing in the picture that was used in an advertising brochure for studying Grassland Science. My undergraduate training confirmed that veld grass was South Africa's 'green gold' (especially our beloved *Themeda triandra*), the primary forage resource supporting the country's thriving cattle and sheep industry.

Now, after almost 40 years of research and on the eve of the 60th anniversary of the Grassland Society of Southern Africa (GSSA), I have reflected on how the perception of the nature, value, and utility of grass and grasslands has changed in the literature that significantly influenced my training, research, and appreciation of grasslands. Using the ecosystem services (ES) framework formalised by the Millennium Ecosystem Assessment (2005), I examined shifts in research published in the scientific journals of the GSSA (which has had three names) from 1966-2023 in provisioning (e.g., forage, medicinal plants), regulating (e.g., carbon and water flows), supporting (e.g., soil formation, nutrient cycling), and cultural (e.g., ecotourism, indigenous knowledge) ES provided by grassy ecosystems (Morris 2023).

Since the term 'ecosystem services' was

first introduced in the GSSA Journal(s) in 2003, its mentions have steadily increased (Figure 1), reaching 82 references by the end of 2023. This rise reflects a broader shift in research perspectives, from viewing rangelands solely as grazing grounds to recognising their diverse ecological roles. Historically, rangelands were viewed primarily as grazing grounds for livestock, with their value mainly measured by forage production. However, since the early 2000s, the focus has expanded to acknowledge the diverse ecosystem services provided by grasslands and savannas, such as their roles in regulating and supporting broader ecological functions (Figure 2). Although livestock production (mentioned in more than 90% of articles) to provide various goods and services such as meat, fibre, milk, skins, draft, social currency, etc, remains prevalent, research has evolved from considering grasslands solely as agricultural resources to recognising their complex roles in local, regional, and global ecological processes. This shift reflects a deeper understanding of grasslands as intricate ecosystems with multifaceted functions.

Three terms highlight the evolving emphasis on multifunctional grasslands over the decades. In the early 1980s at university, we were not warned about the looming global crisis of climate

change (then referred to as the greenhouse effect or global warming), nor were we taught about the critical role of grasslands in carbon sequestration or harbouring biodiversity. Today, the journal literature is replete with studies on or motivated by climate change, with more than 180 articles published since the turn of the Century. Grasslands are increasingly called upon to absorb the climate-altering CO₂ that humans continue to emit through industrial and agricultural activities. The focus on carbon sequestration became prominent in the journal from 2002 onwards, with 44 studies on the topic and 267 publications discussing soil carbon stocks and cycling. Biodiversity, including the species and functional richness of plants and other biota in grasslands, is featured in numerous articles in the GSSA Journals. Current assessments and sustainable management strategies often consider not just grass but also the diverse herbaceous non-grass species that contribute to the high species richness of certain grasslands. Preserving these forbs is also now a central aspect of my current research.

Another trend was the gradual replacement of the descriptor "veld" by "rangeland" in the Journal literature, especially in the 21st century (Figure 3), as South Africa began to align with



Figure 1. Grassy scene. Craig Morris

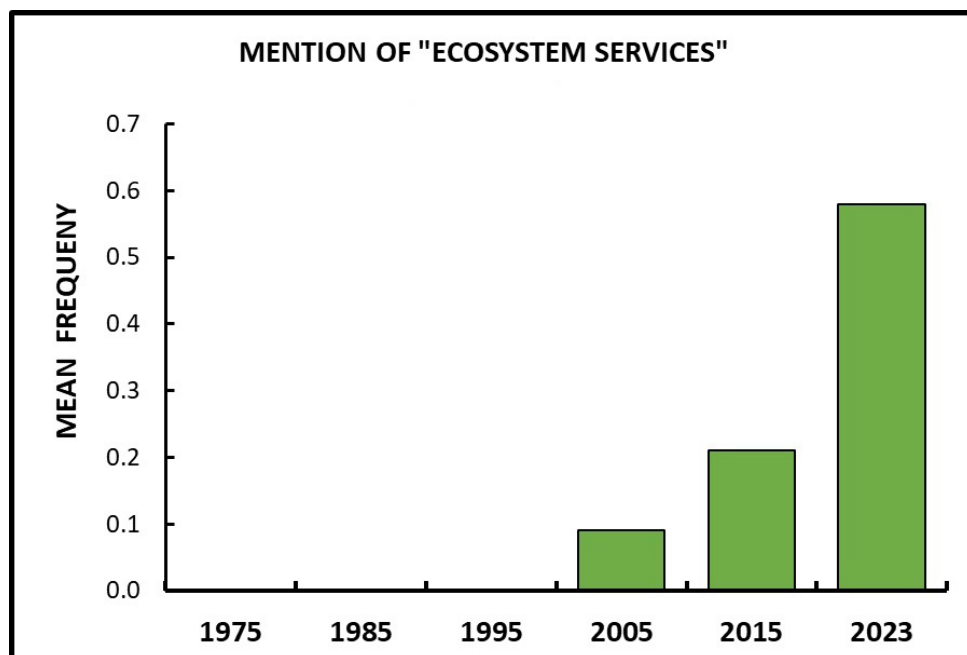


Figure 2. Mean (10-yr) annual frequency of articles mentioning ecosystem services in the journals of the GSSA from 1966-2023.

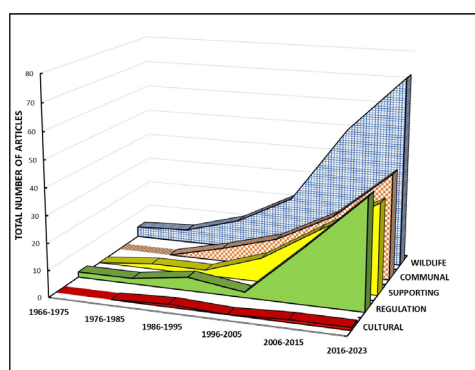


Figure 3. Count of articles in the GSSA journal related to various ecosystem services and users (communal; wildlife and conservation) of rangeland from 1966-2023.

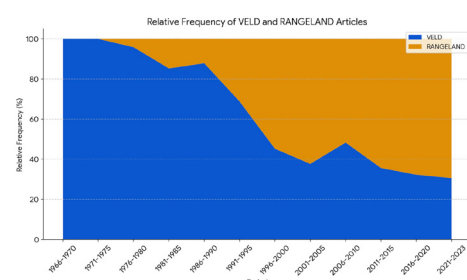


Figure 4. Change in the usage of the terminology “veld” and “rangeland” in the Journal over almost six decades.

international standards. The name African Journal of Range and Forage Science was adopted in 1993 to reach a larger audience. However, “veld” persists (e.g., veld condition assessment) owing to its cultural significance and historical use in common parlance, local literature and science – as they say, you can take the South African out of the

veld but you can’t take the veld out of the South African.

While scientific research and terminology have broadened to include various ecosystems and their services, there has also been a growing recognition of the cultural and social dimensions of rangelands. Historically, livestock farmers on communal grazing lands were often overlooked or blamed for degradation. However, recent research has begun to acknowledge the complexities of the commons and the people who manage them. I recall attending the annual GSSA conference in Namibia in 1989 when Fiona Archer presented the first paper addressing the farming systems and socio-economics of pastoralists in Namaqualand, which met with a lukewarm reception. At that time, there was little interest in such “social” issues among hardcore grassland scientists who believed that a grass plant does not know whether it’s being grazed by a communal or a commercial cow. This ignorance gradually diminished (Figure 2), and numerous studies in the Journal, including two special issues on communal rangelands and pastoralists, have significantly contributed to a greater understanding of the value of these lands and the people who manage them. This groundwork and evolving recognition have positioned southern Africa to contribute meaningfully to the upcoming International Year of Rangelands and Pastoralists in 2026

The rise of commercial game ranching and wildlife-related research (Figure 2) has revealed the immense value of local rangelands for meat production, conservation, and ecotourism. Game meat, a source of biodiversity-friendly, healthy

(low-fat and cholesterol), and delicious free-range protein, is underexploited. Studies in the Journal have highlighted the economic potential of rangelands to support biodiversity. The Draft National Biodiversity Economy Strategy for South Africa (2024) aims to promote more equitable and sustainable exploitation of our natural resources, including wildlife, necessitating research on rangeland management for dual livestock and game production and for monitoring sustainable wildlife and biodiversity utilisation.

A significant gap exists in exploring how local rangelands and other ecosystems contribute to cultural ES and ecotourism (Figure 2). Southern Africa boasts unique rangeland cultures, like the herders of Namaqualand and Lesotho, with well-developed local knowledge and practices. It also contains one of the few remaining large areas of intact grassland in the Drakensberg (Scholtz and Twidwell 2022). However, these cultural assets are insufficiently researched, appreciated, and promoted. As Professor William Bond laments: “We have these vast, incomparably lovely ‘grass-capes’, but where are the artists, the poets, and the poems?”

Reflecting on the diverse and insightful literature published in the Journal of the GSSA, alongside my own experiences, it is evident that our understanding and appreciation of grasslands have profoundly evolved and deepened over the past decades. Much like my personal journey, our view of grassy ecosystems has become richer and more nuanced. We are now beginning to see the whole grassland and not just the grass, recognising the wide range of goods and ecosystem services that multifunctional grassy ecosystems can provide and their broader ecological and cultural significance. And there is still so much more to explore and discover, as T.S. Eliot so aptly put it in “Little Gidding” in 1943:

“We shall not cease from exploration / And the end of all our exploring / Will be to arrive where we started / And know the place for the first time.”

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Invasion of Spear Thistle and Possible Control Measures

Sive Tokozwayo

Current Address: Department of Rural Development and Agrarian Reform Province of the Eastern Cape

Scientific name: *Cirsium vulgare*
Family: Asteraceae
Genus: *Cirsium*
Common names: Spear, scotch, roadside thistle and bull. Spear thistle

Introduction

Spear thistle is a member of the Asteraceae family and is commonly known as roadside thistle, bull thistle and plume thistle. The plant native to Europe, Western Asia, and North Africa. Spear thistle is now naturalized and widespread throughout the South Africa. It is believed that spear thistle was introduced into South Africa for the first time during the Boer War (i.e. 1880s), probably with hay or fodder.

Spear thistle was first identified by Van Reenen in KwaZulu Natal. In areas with cooler temperatures and high rainfall, the plant is prevalent, but it is rare in dry areas in South Africa. Spear thistle's invasion is a significant threat to both agricultural and natural ecosystems. The plant is a competitor with grasses that are beneficial to livestock, disrupting natural community dynamics, and causing injuries to animals.

Legislation

According to Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), Spear thistle has been classified as an invader species under category 1, and it is imperative to remove and destroy it immediately. The plant is uneconomical and has traits that are harmful to animals. The uncontrolled spread of spear thistle is constantly threatening the livelihoods of farmers. Spear thistle is progressively reducing grazing capacity, croplands, and animal injuries. On abandoned lands and disturbed soils, the plant thrives and competes with grasses for soil resources and sunlight.

Habitat of spear thistle

Spear thistle can adapt and grow in various soil types under different moisture conditions.

The plant is more effective when grown in deep, fertile, well-aerated soil that is not too hot, and is less prevalent in light, dry soil types. If soil is disturbed, spear thistle can become problematic, especially in areas such as roads, riverbanks, fence boundaries, and grazed areas.

Description of spear thistle

Spear thistle is classified as an herbaceous plant that has a flat rosette of leaves and a deep taproot system with numerous branched stems. It can grow up to 1.5 meters tall in good conditions.

The plant is made up of two stem types, namely rosette and stem leaves. The rosette leaves grow close to the ground while the stem leaves develop on the upright stem.

The upper leaf surface is dark green with scattered thorns and hairs, while the lower surface has a woolly appearance. The plant has pink flowers surrounded by the spiny bracts appear from September to April. Flowers are rich nectar which is used pollinating insects.

Reproduction and dispersal

Spear thistle reproduces only by seed which germinates in Autumn. Spear thistle seeds are short-lived and most on or near the soil surface do not remain viable for more than a year. Seeds buried at a depth of 12.5 cm may remain viable for up to three years. Overgrazing, tilling, and soil disturbance are cause these seeds to germinate early autumn season. During winter season spear thistle prepares the development of root system known as succulent storage roots whereas rosette leaves development commences in early spring. Flowering occurred in summer and dies at the end of autumn. Each flower head can produce as many as 4000 seeds. Seeds ripen and are released from early July through October, occasionally later along the coast. Hairs from the seed reduces weight of the seed, making it more suitable for wind dispersal. During floods some seeds are washed away



Figure 1. Fully grown spear thistle (Source: Tokozwayo Sive)



Figure 2. Rossette leaves during the seedling growing stage (Source: Tokozwayo Sive).

and remain on the stream banks where they later germinate or attach on the vehicles, animals and implements. Birds and other animals spread the seed from ground to the trees or bushes where they hide.

Management of spear thistle

Farmers are encouraged to familiarise themselves with the vegetation occurring in their farms for early detection of



Figure 3. Flower part of spear thistle (Source: Tokozwayo Sive).



Figure 4. The plant started dispersing seeds in Autumn season (Source: Tokozwayo Sive).



Figure 5. Spear thistle seed ready for dispersal (Source: Tokozwayo Sive).

unwanted species. Recently, there are only three control measures which has been reported namely mechanical, biological, and burning. However, the suitability of these measures depends on numerous factors such as terrain, availability of labour and density. For cost saving, all the above-mentioned control measures should be applied as early as possible in terms of plant age and density.

Mechanical control (clearing or uprooting)



Figure 6. Rivers and wind are key drivers of the spread of spear thistle (Source: Tokozwayo Sive).



Figure 7. Dumping sites are becoming hot spots for spear thistle in communal areas (Source: Tokozwayo Sive).



Figure 8. Mechanical control of spear thistle (Source: Tokozwayo Sive).

Clearing will necessitates follow up treatment to deal with the re-establishment. Cutting, collecting, and burning of flowering part is recommended specially if the plant was detected at maturity. Brush packing with cleared material of spear thistle facilitates herbaceous vegetation. Reseeding with local adapted grass seed is recommended after clearing heavily infested areas. After clearing burning can be used to destroy all the uprooted or cleared material. However, there is no evidence whether burning may completely kill the spear thistle.

Chemical control

For best results, the treatment should be applied before seed production and avoid the plant to reach the maturity growing stage. Farmers are encouraged to apply the chemical in less dense areas before attending the densely populated areas. Recently, there has been no specific herbicide for spear thistle but, there are non-selective chemicals which has been published and reported to be good for spot spraying such as MCPA Sodium salt, clopyralid, glyphosate and

sulfometuron methyl.

Impact of grazing management

High grazing pressure or trampling may reduce the leaf area special that of young plants. Sheep, goats, donkeys, and horses, but not cattle, will eat young plants and can have a significant effect on spear thistle in the early stages of an infestation. Goats tend to avoid spear thistle foliage but eat the flowerheads which can completely prevent seed dispersal from mature plants. Light grazing by sheep may selectively reduce competition from neighbouring plants, increasing seedling survival, growth, flowering, and seed production.

Biological control

There are two biological controls namely *Urophora stylata* and *Rhinocyllus conicus*. *Urophora stylata* is a fly which forms galls in the flowers thus preventing seed formation, while *Rhinocyllus conicus* destroys the seeds. Use of biological control aimed at not eradicating the plant but to reduce seed formation, thereby suppressing the aggressiveness of the plant.

Conclusion

Birds, rivers, wind, floods, transport, anthropogenic activities, and movement of both wild and domestic animals are the key drivers of invasive species. Spear thistle is rapidly increasing in our communities special in abandoned croplands, grazing lands and disturbed areas.

Planting of crops such as maize is the cheapest solution for preventing the spread of invasive species in abandoned croplands. Undertaken intervention by farmer workers at Sandile farm was highly recommended for creating a space for grazing animals.

Therefore, uncontrolled spear thistle in our communities will have a negative impact on both animals and livelihoods of farmers.

Recommendations

- Mechanical control (i.e. clearing and uprooting) is highly recommended for both grazing camp and cropland.
- Follow up treatment will be required in all cleared areas, therefore, spot spray with glyphosate is

recommended.

- Boom spray application with non-selective chemical is not recommended on grazing camp because chemical may destroy other plants like grasses which are vital for feeding livestock.
- Planting of crops such as maize on cropland is also highly recommended for suppressing the aggressiveness and reduce population of spear thistle by intercepting sunlight.
- Glyphosate can be applied at seedling growing using spot spraying method knapsack.
- Correct mixture of chemical versus water must be done accordingly as prescribed by the manufacturer.
- For the best outcomes and cost saving, non-selective chemicals should be applied at seedling growing stage of the plant.
- More animals (i.e. high grazing pressure) in one camp for short space of time may also reduce the leaf production or the tuft size of spear thistle.
- Cutting, collecting, and burning is also recommended for preventing the spread if the plant is detected at after flowering stage.



Young Researcher of the Month: Lesego Malekana

Good evening colleagues, members, and guests. Welcome to the annual congress of the Grassland Society of Southern Africa. I want to extend my heartfelt thanks to the Local Organizing Committee, the Council, and especially to Minette for her exceptional contributions. A special thanks to those who contributed to the organization of Congress but aren't here in person – notably Sindi, the chair of the scientific committee.

Lesego Malekana is a recent MSc graduate from the University of the Free State, and since September has been doing his PhD on plant invasions ETH Zürich, Switzerland.

At the 59th GSSA Congress he gave a platform presentation titled: 'Impact of invasive Rosaceae on plant diversity along elevation gradients in the Maloti-Drakensberg'.

Tell me more about your presentation?

I presented about the impact of invasive alien trees, originating from Europe and Asia, one from South Africa, all in the family Rosaceae in the Drakensberg and I also looked at the management. I basically removed the trees and see if our native vegetation will recover. My study showed that these invasive trees threaten our grassland mountains which threatens our agriculture, water sources and biodiversity. We showed that these invasive trees have a negative impact on biodiversity and their management is needs to be prioritized at higher elevations.

What is something unique or special about being a researcher in your field of study?

Exploring the mountains, learning the plants, studying the mountains, hiking as a career and 4x4 off roading, something that makes alpine ecology so special.

Are there any challenges you are facing as a young researcher?

Not that I can think of right now.

Who inspires you?

Everyone who has supervised me inspires me, I look up to them and want to contribute to science like they do. Prof Ralph Clark, Dr. Grant Martin, Prof. Sandy Steenhuisen, Prof. Peter le Roux.



Deadlines for

Newsletter of the Grassland Society of Southern Africa

grassroots

submissions

Issue 25.1: 1 January 2025

Issue 25.2: 1 April 2025

Issue 25.3: 1 July 2025

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