

grass roots

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Message from the GSSA President



DAVE GOODENOUGH
GSSA PRESIDENT

I welcome the opportunity to update you on recent developments in our Society, particularly with regard to its administration, our new-look newsletter "Grass Roots" and forthcoming congresses. GSSA Council recently appointed Mrs Lolly Stuart of "Stuart Communications", Pietermaritzburg, to take over the administration of the GSSA. All future accounts for annual subscriptions will be processed by Stuart Communications, to which payments in favour of GSSA should be made.

Mrs Stuart has also agreed to produce our new GSSA newsletter, "Grass Roots" which will replace the "GSSA Bulletin". Graham Peddie, who was previously responsible for producing the Bulletin, will work closely with Mrs Stuart in providing her with brief reports, articles and photographs of interest to all GSSA members and others in related fields.

Your support for "Grass Roots" is essential if we are to publish this planned eight-page newsletter every quarter. If there is, for example, a farmers day, pastures or veld course to be held in your region which will be of interest to GSSA members and others, please inform Mrs Stuart or Graham accordingly, AND follow up with a brief summary of the farmers day you attended, AND preferably with a few photos with captions and names of those in the photo.

"Grass Roots" is YOUR newsletter and we need YOUR contributions! Please also provide names and addresses to Stuart Communications of organisations and libraries in your area who would also be interested in receiving the GSSA's "Grass Roots" newsletter.

Your GSSA Council has also recently discussed holding farmers days in different regions under the auspices of the GSSA at which top scientists and farmers will be asked to address subjects of interest to GSSA members and others. A publication of the day's proceedings will be made available to all attending and tours to a farm(s) in the area are also envisaged. More details will follow! Please contact me or other members of the GSSA Council if you feel such a farmers day should be organised in your area.

We are all looking forward to the joint GSSA/SASAS congress to be held at Christiana Aventura from 13 to 17 May 2002, inclusive. Should you have any queries in this regard please phone the congress organisers at 018-299 6707.

The VIIth International Rangelands Congress, to which all GSSA members are invited, is to be held in Durban from 26 July to 1 August 2003. For more details, visit the IRC 2003 website at www.ru.ac.za/rgi/irc2003/IRC2003.htm OR contact Sue Bumpsted Conferences, P/Bag X37, Greyville, 4023 (Telephone 031-3032480; Fax: 031-3129441; or email: delegates@sbconferences.co.za). This congress will replace the normal 2003 GSSA annual congress.

Your proactive support for the GSSA is essential if our Society is to continue to make a meaningful impact in Southern Africa.

With best regards
Dave Goodenough
PRESIDENT

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GSSA members involved at Cedara farmers day

A number of GSSA members were involved in a farmers day held over two days in late August at Cedara, jointly organised by the KwaZulu-Natal Department of Agriculture and Environmental Affairs and the ARC-Range and Forage Institute.

“Temperate forages and their role in livestock production” was the theme and over 200 farmers and company representatives attended. Talks on, “Know your cultivars – tall fescue, ryegrass, fodder radish, forage cereals and teff” and “Breeding ryegrass cultivars with improved forage quality” highlighted new forage cultivars recently developed at Cedara and how they compare with imported cultivars.

Other presentations on the necessity for irrigation scheduling, the importance and management of soil organic

matter, measuring your pastures with a disc meter, the influence of fertilizers on intake of Italian ryegrass and the need for good quality roughage for the high producing dairy cow, were also very well received.

Characterisation of goats on pastures was also discussed. This is a new project in which the nutrient requirement and forage intake rates of goats, as well as the suitability of different grasses, legumes, shrubs and mixtures to goats, is being assessed.

A number of seed companies were also involved on the day and farmers were able to view various different forage cultivars which are currently marketed in South Africa.

This farmers’ day was a great success and more are envisaged in the future.



*LEFT:
Farmers gathered at various stands to hear the latest on temperate forages.*

PHOTO: JOHN TUNGAY

*RIGHT:
Dave Goodenough and
Dr Dieter Reusch of the ARC-RFI
spoke about their new ryegrass and
tall fescue varieties.*



PHOTO: JOHN TUNGAY



PHOTO: JOHN TUNGAY

LEFT:
Sigrun Kassier of the ARC-RFI and Dr Amie Aucamp, Director of the ARC-RFI, discussing one of the new ARC-RFI winter-vigorous ryegrass varieties.

RIGHT:
Richard Reynolds of the KZNSA & EA demonstrating the disc meter for measuring pastures.



PHOTO: JOHN TUNGAY



PHOTO: JOHN TUNGAY

LEFT:
Sheila Elliot of the KZNSA & EA talked on the evaluation of different pastures for goats.

Attention all GSSA members

This newsletter has been sent to all GSSA members, whether you have paid your subscriptions or not. Please note that future newsletters will not be distributed to unpaid members, so we urge you, in order to benefit from this association, to please get your account up to date if this is presently outstanding.

For account enquiries, please contact Priscilla, tel: 033-3425779

Planted Pastures Tour of the Cape

The GSSA fully supported the planted pastures tour of the Cape held in August last year, co-ordinated by GSSA President Dave Goodenough, of the ARC-Range and Forage Institute. Many of the 61 participants who joined the tour party for a day or more were GSSA members.

The tour kicked off with a very interesting visit to the Bathurst Research Station where an overview of the beef production norms off kikuyu, K11 kweek, stargrass and Panicum/lucerne pastures was presented by Neels de Ridder. Then on to Trevor Simpson's farm near Alexandria where Trevor and Mick Willis discussed dairying off kikuyu pastures and how to manage kikuyu pastures to ensure good forage quality.

The following day three farms were visited in the Tsitsikamma under the leadership of Andrew Beckerling, Frank Weitz, Tom Daines and Rob Phillips. David Masterson, a dairy farmer, spoke about the role of kikuyu, ryegrass, stooling rye and teff. At the next farm, Andrew Masterson, a top Friesland breeder, spoke on breeding for top milk yields and oversowing pastures. At Rob Ballantyne's farm, perennial ryegrass pastures were viewed and Andrew Beckerling gave a very interesting talk on how they go about disc-measuring and managing their ryegrass pastures. Soil compaction is also an issue of great concern in the Tsitsikamma and Andrew demonstrated a held-held soil compaction probe which determines whether there is an underling soil compaction problem.

The next day, those who stayed overnight at The Wilderness awoke to several whales frolicking just beyond

the waves, but it was back to "work" and a visit to the Outeniqua Research Station, just outside George. Here tour leaders for the day, Dr Robin Meeske, Philip Botha, Willem Burger, Dr Mark Hardy and Hennie Gerber discussed the latest techniques used for oversowing kikuyu with white and red clover and ryegrass, the economic implications of pasture choice, fertilizer trials and pasture measurement using the rising plate meter. The Dargle versus NCD Enhancer ryegrass grazing trial, where milk yields and various other criteria are being compared, was then viewed. Results from the national ryegrass cultivar trial were also of great interest to all.

That afternoon the tour party visited two farms near The Wilderness where Bruce Holmes (dairy) and Jake and Ben Crowther (beef) spoke about how they manage their kikuyu and ryegrass pastures.

The last farm to be visited en route home was Pierre Hart's dairy farm near Komga. Here the management technique used in the *Desmodium* legume pastures was discussed. It was also interesting to note that Pierre prefers Italian ryegrass cultivars such as Concord to Westerwolds ryegrass cultivars such as Midmar because they persist far longer into the late spring months than a Midmar ryegrass pasture would do.

It was agreed by one and all that this tour was very informative and an opportunity to meet numerous researchers, farmers and advisers, all with a common interest in planted pastures.



ABOVE: Graham Peddie (Dundee), Christi Visagie (Nooitgedacht), Dave Goodenough (tour co-ordinator from Cedara), Prof. Kevin Kirkman (University of Natal), Philip Botha (Outeniqua) and Annelene Swanepoel (Elsenburg) were some of the 61 tour participants.



LEFT:
John Cunningham, Jean Doxey and John Morrison (all from Cedara) and Dorette Muller (Nooitgedacht) discussing a kikuyu pasture oversown with white clover at the Outeniqua Research Station.



RIGHT:
Christine Koenig and Christy Webb (both students from the University of Natal), Dr Piet Pieterse (University of Pretoria), Dr Johan Marais (Cedara) and Bryan Mappedoram (Roodeplaar) were also on tour.



LEFT:
Theunis Coetzee (Jeffrey's Bay), Richard Reynolds (OSCA, Zululand), Sheila Elliot (Cedara), Melanie Glaum (Cedara College) and Ian Marot (Cedara) discussing the Outeniqua pastures.

Objectives of the GSSA include:

- ✓ **Promote and advance the science and technology of rangeland and pasture production**
- ✓ **Create awareness, opportunities and participation in southern Africa for range and pasture scientists, technologists and farmers**
- ✓ **Promote the equitable, efficient and sustainable use of the natural resources**
- ✓ **Encourage liaison with other societies of similar interest**

DIE EVALUASIE VAN LUSERNKULTIVARS ONDER BEWEIDING

G.W.D.R. Conradie⁺, Dr. M. Hardy⁺⁺, T. Oberholzer en W. Langenhoven⁺⁺

⁺ Elsenburg Landbounavorsingsentrum, Privaatsak XI Elsenburg, 7607

⁺⁺ Tygerhoek, Posbus 25, Riviersonderend, 7250

Hierdie referaat is gelewer op die Lusern Mini-Simposium (11-12 September 2001) te Upington. Die artikel gee 'n kort oorsig van die vier fases waaruit weidingsnavorsing bestaan en wat elke fase behels. Die klem val op die beginsels van hoe weidingstoleransieproewe uitgevoer word en wat geskikte proefparameters is. Die resultate tov watter kultivars die hoogste presteerders was, was vir die doel van die bespreking van minder belang. Aan die hand van 'n praktiese voorbeeld, uitgevoer in die Riviersonderend-distrik van die Suid-Kaap, word verduidelik hoe weidende diere in fase 2 van weidingsnavorsing ingesluit word. Alhoewel 'n wisselweidingstelsel aanbeveel word vir lusernweidings, word droëlandlusernweidings algemeen aanhoudend bewei in die Suid-Kaap. Dit is weens praktiese probleme wat in die weiding/gewas stelsel ondervind word waar kampe meestal groter as 30 ha is en daar gewoonlik te min kampe per skaaptrop beskikbaar is. Gevolglik is dit belangrik dat lusern kultivars vir skaapproduksie in die Suid-Kaap onder beide aanhoudende en wisselweiding geëvalueer word. Die doel van die proef was dus die evaluasie van verskillende lusernlyne en kultivars onder droëlandtoestande oor beide weidingstelsels (aanhoudend vs. wisselweiding) teen dieselfde weidruk. Ses lusernlyne en twee lusernkultivars (SA Standaard en CUF101), is in April 1997 op Tygerhoekproefplaas (Skaliegronde,

Riviersonderend-distrik) gevestig en het gestrek oor 'n periode van drie jaar. Driemaandelikse planttellings is in elke perseel oor beide beweidingsiklusse (aanhoudende vs. wisselweiding) bepaal. Verskeie gevolgtrekkings kon uit resultate gemaak word. Eerstens het kultivarverskille ten opsigte van aanhoudende en wisselbeweiding voorgekom. Tweedens het die seisoenale DM-produksie (kg DM.ha⁻¹) van lusern kultivars en/of lyne visueel meer vertoon by wisselweiding as teenoor aanhoudende beweiding. Derdens het aanhoudende beweidings veroorsaak dat plantdigtheid (%Plante.m²) baie vinniger afneem as met wisselweiding. Vierdens het lusern kultivars en/of lyne op enige stadium van waarneming (3 tot 21 maande na eerste beweiding) altyd 'n laer plantdigtheid (%Plante.m²) by aanhoudende beweiding in vergelyking met wisselweiding gehad. Plantdigtheid is 'n riglyn t.o.v. weidingtoleransie van lusern kultivars. Dit is egter ook belangrik om die produksiepotensiaal van kultivars onder beweiding in ag te neem wat bestuursbeperkings van die weiding/gewas stelsel inkorporeer. Daar is verskeie aspekte vir aandag vir toekomstige weidingtoleransie proewe in die Suid-Kaap in hierdie artikel vermeld. Laastens, daar is geen sin in die aanbeveling van kultivars wat oorleef onder 'n swaar weidruk, maar wat nie voldoende voer vir volhoubare, ekonomies lewensvatbare diereproduksie produseer nie.

For the full article, see the GSSA website: www.gssa.co.za

Revegetation of bare patches in the Karoo: an evaluation of various techniques

N. Visser, J.C. Botha and B. Witbooi

Department of Agriculture – Western Cape, Private Bag XI, Elsenburg, 7606

Bare patches cover large areas of the Great Karoo. The surface soil of these bare patches is severely compacted, limiting moisture penetration.

Perennial plants are rarely found in these areas. Bare patches are usually the result of degradation processes, mainly severe overgrazing and patch selection. Severe drought may also initiate the formation of such bare patches

Five different techniques were tested on a bare patch of about 100 ha on the farm Hillmore near Beaufort-west, which receives an average annual rainfall of 190 mm, with an annual rainfall of 364 mm during the study period. Soils were clayey loam with a very low carbon content (0.3%). These techniques were combinations of: oversowing (seed); covering with

branches (branches); till to a depth of 100 mm (tilled); and a control with no treatment (control). Fifteen kg seed/ha of a seed mix comprising *Atriplex semibaccata*, *Cenchrus ciliaris*, *Chaetobromus dregeanus*, *Pteronia membranacea* and *Tripteris sinuatum* was broadcast onto the soil surface in the oversowing treatments.

Best establishment of plants was obtained from the tilled-seed-branches treatment while the control and seed treatments had very poor establishment, which can be attributed to unfavourable soil surface conditions and the absence of a microhabitat. *Pentzia incana* (0.03-1.26 plants/m²) and *C. dregeanus* (0.01-1.36 plants/m²) were the most common species. Over-sown species showing the best germination were *C. dregeanus* (1.3

plants/m²) and *T. sinuatum* (0.2 plants/m²). Tilled-seed-branches treatment gave the best results but was the most expensive. Tilled-seed treatment was almost as successful, but is much cheaper than the labour intensive brush packing.

Revegetation of bare patches goes hand in hand with mechanical disturbance of the soil to increase water infiltration and to provide physical barriers to slow water movement across the soil surface, to limit the effects of raindrop impact, reduce soil temperature and to catch wind-blown seed and organic matter. In addition viable seed of desirable species such as *P. incana*, *T. sinuatum*, *C. dregeanus*, *Aridaria* spp and *Galenia* spp. can be introduced.

For the full article, see the GSSA website:

www.gssa.co.za

THE PERSISTENCE OF CLOVERS IN GRASS-CLOVER PASTURES

Philip Botha

Department of Economic Affairs, Agriculture & Tourism:

Southern Cape ADC, Outeniqua Experimental Farm, PO Box 249, George, 6530

Grass-legume pastures are the basis of the dairy industry in the Southern Cape. The grasses used include annual and perennial ryegrass, tall fescue and cocksfoot. Red and white clovers form the legume component. While pure grass pastures generally have higher dry matter production per hectare than pure clover pastures and provide for a more even fodder flow, clover pastures provide a higher quality fodder than grasses. With good management a high proportion of clover can be maintained in grass pasture without compromising the total dry matter production of the pasture. With grass-clover pastures not only is forage quality increased but, through their process of fixing atmospheric nitrogen and the recycling of fixed nitrogen, clovers reduce the requirements for inputs of inorganic nitrogen.

The production potential of a perennial grass-clover pasture depends mainly on the stability of the grass-clover ratio. For optimum quantity and quality of herbage a clover content of 30-50% is needed (Martin, 1960). As the contribution of clovers to total dry matter production of the pasture increases above 50%, so the dry matter production per hectare is significantly reduced. If, however, clover's contribution is below 30% then there is a loss in quality of dry matter availability to livestock. For example, cows grazing pastures which have a 25% or 50% clover component produce 22% and 33% more milk respectively than pastures which have a 0% clover component at the same dry matter availability per hectare (Harris, 1997).

Due to the different growth forms and growth requirements of perennial temperate grass and of clovers,

and differences in palatability of the plants, most farmers find it extremely difficult to maintain a sufficient percentage of clover in their pastures. Grasses tend to be vigorous growers and, given the opportunity, will out-compete the clovers. The management of grass-clover pastures therefore puts greater emphasis onto ensuring that the requirements for optimal growth of clovers are maintained.

In this paper factors such as soil fertility, soil moisture, fertilization requirements and the frequency and intensity of grazing on the persistence of clovers in grass-clover pastures will be discussed. Details provided have been gained from research conducted in the Southern Cape, and from the literature.

A number of factors are important for clover growth and persistence in a mixed grass-clover pasture. It is important that they all need to be addressed in order to achieve increased clover content. The goal should be to increase clover content without reducing annual pasture dry matter yield. Higher clover content will improve milk yields for the same levels of dry matter available in the pasture. Unfortunately we are way behind the leading milk producing countries where it comes to the quantification of the factors that influence pastures persistence. The pasture production, the amount of pasture utilized by our animals and the actual cost in relation to our production cost will be the only guidelines that will tell us if we can produce our milk competitively on an international market.

For the full article, see the GSSA website: www.gssa.co.za

Feedback on the Annual Meeting of the Society for Range Management, at Kansas City, Mo.

Richard Hurt

ARC – Range & Forage Institute, P.O. Box 1190 Hilton 3245; E-mail: info@mvelo.co.za

I was fortunate to attend this meeting with the objective of marketing the VIIIth International Rangeland Congress scheduled to be held in Durban in July 2003. From the outset I would like to express my gratitude to David Grossman, Luthando Dziba, Noks Mgxashe and Baldwin Negovhela for their help in setting up and manning the stand, especially during my bouts of tick-bite fever!

The SRM meetings are somewhat different to our GSSA annual congress, and not in the least by the number of delegates (some 1 500 registered!). The meeting is very business orientated with a host of different activities being organised during the convention by various committees and working groups within the SRM. The activities range from pure science sessions, to meetings of their Board of Directors, Advisory Council and other committees, to accreditation and other exams, to contests, to auctions, to social functions. The business committees are aimed at developing specific agendas that are believed to be important in meeting the aims of the Society or for the discipline of range science as a whole.

In addition to business, however, the meeting also addresses scientific goals and a number of plenary and more concurrent symposia, workshops and sessions allow for the reporting of new science and breaking range management issues. Huge emphasis is placed on student activities at all levels, post-graduate, graduate and even scholar. In all these cases, students undertake their own research and are expected to write up their findings and report them at the annual meeting. This is definitely a field in which the GSSA should start investing in close collaboration with those academic institutions that offer range and forage science or related curricula. At present we are only involved at two levels; first, scholars are encouraged to undertake projects allied to range and forage science and report on these at the regional school science expositions; and second, deserving graduate and post-graduate students in range or forage science are passively awarded GSSA medals for their achievements. I believe that we are not doing enough to proactively encourage scholars and under-graduate students to develop an interest in the discipline, and this is particularly

evident in the lack of capacity in range and forage science currently being experienced by most southern African research institutions.

The meeting also included a large trade exhibition. In general, the convention is attended by a considerably higher proportion of producers than is the annual GSSA meeting, and consequently a trade exhibition is not out of place. Exhibitions varied from some 30 industry-related stands to displays by the various chapters or regional branches of the SRM, to school and university displays. This could be something for the GSSA to consider at its annual congress, particularly from the point of giving some exposure to our Member Institutes.

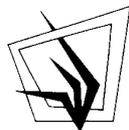
The IRC was allocated a complementary stand by the organisers where we set up posters, maps and brochures to market the event. A TV with VCR was provided for a SATOUR video on the tourism potential of South Africa as back up for potential delegates. There was huge interest in the event from academics to administrators to researchers to graziers. It seems that because South Africa is the first African country to host the IRC, we can expect an abnormally higher number of delegates and accompanying persons than usual. Many potential delegates were attracted by the relatively cheap

congress and associated holiday due to the weak Rand. We gave out pin-on bead South African flags to potential delegates, and these turned out to be an absolute hit amongst the Americans!

In conclusion, I would like to express my gratitude to all who made this trip and marketing exercise possible.

- SRM members for making the marketing trip feasible and waiving certain fees (Jim O'Rourke, outgoing president; Urs Kreuter, chair of the International Affairs Committee; Ann Harris, SRM administrator; Larry Pollard, trade exhibition organiser).
- The IRC Organising Committee for funding the trip, and Sue Dungan and Lynne du Toit for organising exhibition and marketing material, and tickets and visas at short notice.
- The Director of the ARC-RFI for the time to be involved in the organisation of a major event as the IRC and the time to attend the meeting.
- And last but not least, my South African colleagues who assisted with the stand.

I have e-copies of the abstracts and programme of the event, and any interested members may contact me for these.



Grassland Society of Southern Africa



South African Society for Animal Science

INVITE YOU TO ATTEND A

PRESTIGE DAIRY SYMPOSIUM

Maximise Profits with Pastures and Roughage

The first of three dairy symposiums, this event is aimed at providing delegates with the latest information on pastures in dairy production. A number of pasture experts and top dairy farmers have been invited to share their knowledge with you through the following exciting programme:

- Ryegrass pastures: maximum production or stuck in the "Mudmar" (Dave Goodenough)
- Nitrogen fertilising: taking up the slack (Dr Neil Miles)
- Irrigating pastures: at what cost? (Dr Roy Mottram)
- Effective management of dairy pastures (John Bredin)
- Roughage quality: its cost to milk production (Trevor Dugmore)
- Roughage production systems for dairy (Chip Turner)

The day's proceedings will be chaired and facilitated by John Evans, a well-known dairy consultant. Delegates will receive a copy of the glossy, bound Proceedings of the Symposium on arrival. Further details are:

Date and time: Tuesday 04 June 2002, 09h30 for 10h00

Venue: Auditorium, Cedara (Pietermaritzburg, KwaZulu-Natal)

Registration: To facilitate printing of the proceedings and catering it is essential that delegates register by Friday 31 May 2002. Late registrations will be subject to a penalty fee. For full registration details, see the Grassland Society web site (www.gssa.co.za).

To reserve your place at this important event contact: Dave Cookson on (031) 266-1344 or fax (031) 266-8458 or e-mail: mindmap@icon.co.za or telephone Richard Hurt on (082) 887-1082

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