

GROWING GRAZING GRASS: Part 1

There are several points to consider when growing grass.

WHAT TYPE OF VEGETATION ZONE ARE WE?

We are in a SAVANNA WOODLAND ecozone. It is 'open canopy woodland' with some areas of more open savanna. This supports both browsers and grazers. So, we need to keep trees, bushes and creepers (thickets) for the browsers, but re-seed grass for the grazers. Some areas of Marloth have bush encroachment (the bushes and small trees are getting too thick) and so thinning may be needed.

Note! It is illegal to cut any tree in Marloth Park without permission, and without a good reason. (You may e.g. inadvertently cut down a Protected Tree.) Call the Nkomazi or Honorary Rangers if you want permission to thin areas of bush encroachment, e.g. by sekelbos.

WHAT ARE WE GROWING FOR? WHAT DO OUR ANIMALS EAT?

These are diets of the main mammals in Marloth Park:

- Zebra: Unselective bulk feeders; survive on poor forage. Prefer *short green grass*, browse occasionally.
- Wildebeest: Grazers preferring *fresh grass growth less than 15cm high*.
- Impala: *Selective grazers preferring grass*, but browse too, eating flowers, fruit, pods, bark and fallen leaves according to availability. Interesting fact from a KNP study: grass 90% of food in Jan; 37% in July.*
- Warthog: The *bulk of the diet is grass*. "... everything from seeds to roots and underground stems eaten." Also eats fruit, carrion, bark, invertebrates etc.
- Bushbuck: Browsers, selecting plant part, and species. Most of diet is leaves, buds, flowers, shoots, *newly sprouted grass occasionally*, fallen leaves in winter.
- Common duiker: Browse forbs, trees, bushes and eat fruit, pods, insects, fungi, caterpillars.
- Giraffe: Browser mostly of *Vachellia* and *Senegalia* tree species.

CURRENT OVERGRAZING CHALLENGES AND THE NEED FOR RE-SEEDING

- Grass is eaten as soon as it shoots therefore annuals and perennials never get to seed; annuals thus die out.

- **Note:** Edible bushes, forbs and flowers are currently also drastically over-browsed down to stumps and nubs – try to protect/plant some of these. For example, protect these bushes: Weeping Bride's Bush (*Pavetta lanceolata*), Dwarf bush cherry (*Maerua parvifolia*), Knobbly Climbing Bushwillow, (*Combretum mossambicense*) and Sandpaper bush (*Ehretia amoena*).
- Grass does not get the chance to grow into established, well-rooted clumps that can quickly re-shoot with the spring rains.
- The most palatable (see Growing Grazing Grass Part 2) grasses are already grazed out.
- Warthogs pull up and eat grass 'roots and all', and warthogs are overstocked by 700+%. We ought to have fewer than 40; we have over 300.
- Impala, our most numerous grazers, are also drastically overstocked. There are over 1 000 and we should have about 100-150. (Figure from Honorary Ranger's most recent game count, May 2024.) We also have way too many of every other type of mammal.
- Overgrazing means the veld is getting more and more sparsely vegetated. No dead organic matter (compost/humus) is replenishing its fertility, and it is losing its ability to hold water. The soil therefore has a sun-baked, hard crust, and quickly dries out. Desertification is happening in places.
- For the reasons above, much rain simply washes off; it doesn't gently percolate deep into the soil. Therefore, erosion is happening. We are losing more and more topsoil and gulleys are forming.

WHAT GRASS IS LEGAL TO GROW HERE?

Please note that it is illegal to introduce plants indigenous to other regions, countries and continents. We are a Conservation Area. You do not want to let loose something that could become an invader, or that our animals do not even eat. Here is the by-law, promulgated in the Mpumalanga Provincial Gazette on 02 10 2020: "*Marloth Park 4.22 14) No foreign or exotic plants may be planted or kept on the erf, provided that the Municipality may at the cost of the owner of the erf remove such plants from the erf within 60 days after notice has been served to the owner.*"

So, before you bring in any grass you should check if it naturally occurs here. (See the four grasses in our Marloth Mix for naturally occurring, palatable and nutritious grasses.) In this harsh climate it will anyway be difficult for many non-local grasses to survive, so do not waste your money!

Regarding ‘lawns’: we would prefer to see areas where people want short grass to be planted with *Cynodon dactylon*, commonly known as Kweek, Bermuda grass or Couch grass. (It is a widespread naturalised grass that has invaded Bermuda, hence that common name.) This is locally indigenous, suitable to our conditions, and our animals will keep it well ‘mown’ for you! It is one of the grasses in our Marloth Mix.

A note on LM grass: This is a specially cultivated grass for lawns that is derived from indigenous grass. However, it needs a lot of water to stay alive, so we do not recommend it.

A warning about kikuyu grass: This commonly-known ‘lawn’ grass does not occur here naturally. Please don’t plant it. It can end up being an invader.

WHAT IS THE TOPOGRAPHY/SLOPE OF THE LAND?

Sloping land must be prepared with contours or barriers to trap topsoil and prevent it washing away. They also slow down running water so it can percolate into the soil. Use branches and twigs, stones, rows of plants such as aloes, or dig contours following the curve of the land. Note that these contours and barriers also collect compost-making material (leaves, twigs etc).

What about flat land? Flat land should also have some depressions for water to collect, and then percolate down from. Marlothii Conservancy* advise: ‘... create a patchwork of depressions spaced 1-2m apart and able to retain 1 litre of water each’.

Half-moon rainwater depressions are an idea: “Water storage depressions not only benefit plant growth but also play a vital role in re-building subterranean ecosystems. These depressions create microhabitats that support diverse underground organisms, such as earthworms and beneficial microbes. These organisms contribute to soil health and fertility, enhancing overall ecosystem resilience.”*

WHAT TYPE OF SOIL DO YOU HAVE; HOW FERTILE IS IT?

Whether your soil is clay, sandy etc will affect how much compost you need, and how much you need to water. You may need to get expert opinion. Attached is a map of the ‘The Habitats and Ecozones of Marloth Park’, originally published by

Marlothii Conservancy. Here are brief summaries of the soil types found in each one:

Plant community 1: Small fragmented areas with deep sandy plains and leached soils.

Plant community 2: Relatively shallow sandy soils with short bushland.

Plant community 3: Drainage lines with dark clay; poor infiltration.

Plant community 4: Underlying gabbro; quartzite rocks and shallow soils; can have deeper soil formations.

Plant community 5: Marginally deeper and sandy alluvial soils deposited along the Crocodile River. Historically cultivated; fallow for decades but recovery slow.

If topsoil has been washed away or e.g. raked away over years, you may have to buy in more, and/or much compost will be needed. (HR have sourced good, fine compost in Malelane. R50 per bag.) Consider superphosphate fertilizer too, to stimulate root growth.

Never rake off leaves. However, if they have become very thick under trees, preventing grass and forbs from growing, thin and spread them elsewhere, or make compost.

HOW WILL YOU PREPARE THE SURFACE?

Soil baked into a hard crust must be dug over before sowing. If there is no crust the surface must be scuffed with a metal rake or fork. Add compost if needed. See point above and adapt to your situation.

Several experimental patches sown in the last three months in an area of 'shallow sandy soils'* has shown that using fine compost boosts germination and growth tremendously. (see photos)

HOW WILL YOU WATER THE GRASS?

Obviously, it is best if grass is watered naturally in summer, by rain. So HR prefer grass to be sown when the rains settle in, in November. Locally indigenous grass will grow well in natural conditions.

However, grass can be planted from seed or runners (*Cynodon dactylon*) all year round if the winter is mild, and it is possible to water it. Watering can be done

with irrigation – but please note that you should use modern methods and sensible watering times that minimise evaporation. You will lose most to evaporation if you water in the heat of the day, especially with spray irrigation.

A hose with a gentle, fine spray fitting, flood or drip irrigation is better. Water at dawn or dusk. Consider ‘Root Tubes’, especially if you are growing a tree or bush too. They deliver water underground, encouraging roots to grow downward to the water, and minimising evaporation.

In our current situation it is worth watering to ensure your grass matures and survives, even if we have a dry spell. (See ‘nursery patches’ below).

HOW WILL YOU PROTECT YOUR SEEDLINGS?

Until animal numbers are well under control protection from hooves and mouths is essential. Also consider permanently protecting several small ‘nursery patches’ anyway, to ensure some seeding.

- Place a thick layer of sekelbos and thorn branches over the whole area – this will provide wider general benefit from rotting bark etc. See photo.
- OR Erect a low “Warthog exclusion fence”. *This is not legal – and should be seen as a TEMPORARY measure to help overcome this overstocking and veld crisis.*
- OR Create several small, well protected, watered ‘nursery patches’. You could protect them with branches and thorns, or fencing as when you protect a newly-planted tree. Add more than just grass – put in aloes, lilies and flower seeds in spring etc. You could add a Root Tube if you have an edible bush in the mix. You can keep these nursery patches going even when animal numbers are down, to ensure regeneration and restoration of biodiversity. (See photo.)
- **Tip:** Don’t ‘waste’ any tree/shrub protector/s you already have – establish mini grass and flower nurseries in each one.

HOW DO YOU PLANT THE SEEDS?

If possible, mix the seed with river sand to help cast it evenly.

You can sow seed by:

- casting into well-scuffed areas, and lightly tramping down as much of the area as you can.

- planting shallow rows 1-2 cm deep, about 10 cm apart. Simply create the rows with a stick. Cover the seeds lightly and pat down the soil.

Marlothii Conservancy's booklet (see Sources) suggests: '... water well and let the top few centimetres dry out before sowing. Cover seed lightly and protect with 0,5 m fresh sicklebush branches and leaves.'

Water newly seeded areas well with a gentle spray if possible. You want the water to soak right in; no run-off. Water twice a week or more if the weather is hot.

It normally takes 5-7 days for the seeds to germinate, but more in cool weather. It then takes 3-6 months to form a root ball.

Here is advice from Grain SA: "... Seed that is broadcast and rolled [i.e. for us, pressed by hands or feet] will also result in a well-established pasture. The individual plants are not as robust as in a row planted pasture. It is recommended to plant pastures in rows in the drier areas."

WHEN IS THE GRASS READY FOR GRAZING?

This is what Grain SA advises: "Newly established pasture should not be grazed too soon; it must be allowed to develop a good root system. Annuals are generally only ready for grazing 6 to 8 weeks after sowing, and perennials 8 weeks or more. Perennial pasture will take up to two years to reach full production. Heavy grazing after establishment should be avoided at all costs."

So, you need to watch your grass all year round, and may at times need to protect it from grazing once more.

Next week we will post Part 2 about what makes good grazing grass and the grasses of our Marloth Mix.

Good luck and thank you for helping to restore our veld!

Diet facts from *Smither's Mammals of Southern Africa*

Trees Shrubs and Flowers of Marloth Park A guide for property owners Published by Marlothii Conservancy and endorsed by the Nkomazi Municipality in 2010. This very

useful booklet is available from Marlothii Conservancy in hard copy or digital form.
Contact Sanet on 072 893 3211.

<https://www.grainsa.co.za/planning-your-forage-crop> March 2020

*Info about moon-shaped depressions and 'root tubes'

<https://growingtogive.org/blog-posts-page-forty-eight.html>

<https://www.grainsa.co.za/planning-your-forage-crop> March 2020

* 'shallow sandy soils" see Marlothii Conservancy booklet above.

* Interesting article on the widespread need for rehabilitation:

[https://www.frontiersin.org/articles/10.3389/fenvs.2022.960345/full#:~:text=Degraded%20rangelands%20have%20been%20successfully,to%20improve%20animal%20production%20\(Palmer](https://www.frontiersin.org/articles/10.3389/fenvs.2022.960345/full#:~:text=Degraded%20rangelands%20have%20been%20successfully,to%20improve%20animal%20production%20(Palmer)