

4 cows per hectare...

Wayne Smith, Agronomic Acumen, Albany, Ph: (08) 9842 1267.



Paddock 1 containing mainly flatweed, sorrel, and bit of Kikuyu and some reeds. Photo 18 Dec 2003.

I hear so many different views on how one should grow Kikuyu, half of which I do not agree with.

My parents have a small hobby farm in Marbellup, which is about 20km west north-west of Albany. I call it my little research station. There was ~10.5 hectares (26 acres) of arable pasture however, 1-2 acres has now been replaced with a lake and a soak.

We are currently only at ~35 DSE/ha (with beef cattle) but will be at 70-80 DSE/ha by the end of 2006. This could not have been done without Kikuyu.

The soils are non-wetting, acidic white sand, with some areas of underlying coffee rock that dry out a few weeks after the rains stop. There are also some peaty bogs that grow nothing in winter and very little in summer.

Average rainfall is in the 700-800mm range.

Fortunately Kikuyu already existed over most of the farm when we started in January 2004. pH's were in the 3.6-4.3 range. Phosphates were mostly 8-12ppm and potassium in the 40-50's. There were reeds, sorrel, flatweed and silvergrass in the pastures, with the odd sick clover, lotus and phalaris. The farm is divided into five paddocks with electric fencing everywhere.

I have found the best way to improve the pastures is lime, plenty of trace elements in the right balance, lime, phosphate and potassium in regular doses, lime, and plenty of nitrogen and sulphur when required with some ryegrass seed.

Rotational grazing makes the whole system pump.

I was told by many when I started that perennial ryegrass and Kikuyu do not mix. I was also told, "do not add nitrogen

because it will stuff up the clover, will not be worth it, you will get ryegrass toxicity etc." None of this supported what I had read and experienced over the years.

We fertilise often, usually five times a year, and usually that has ryegrass and other seeds mixed in with it. We rotationally graze because we consider it the most efficient way to make money from livestock.

The system works very well for us in that the Kikuyu slows down in late May just as the winter grasses and clovers take over. Then in October to November as the winter species slow down, the Kikuyu is cranking up rapidly underneath. To me it is the perfect pasture system.

Perennial ryegrass, phalaris, annual ryegrass and all sorts of clovers fit in very well with our system. Anything that can grow rapidly and is good for the livestock is useful.

Kikuyu needs and loves nitrogen and sulphur. It can scavenge potassium from way down which is why it does not respond very much to potassium fertiliser. Kikuyu does not seem to need much phosphate either, yet phosphate and potassium are the main nutrients people add to Kikuyu.

Kikuyu is a C4 grass. C3 & C4 are methods that plants use to accumulate carbon from the air and C4 is a far more efficient pathway found usually in summer active grasses like Sorghum, Kikuyu, bamboo and corn. Kikuyu will produce more biomass per unit of water than any C3 grass such as ryegrass, phalaris, fescue or cocksfoot.

Kikuyu loves nitrogen and you have an anchor on your profits if you do not add nitrogen to your Kikuyu pastures.



Paddock 1, showing my daughter able to play hide & seek with her brother. Photo 6 June 2005.

to the potential that is waiting for you from this amazing grass.

We have found the complete opposite of what everyone said would happen. With plenty of nitrogen and other fertilisers and rotational grazing, the clovers are thick and healthy and we struggle to keep enough non-Kikuyu grass in the system. The Kikuyu is thriving. It is an awesome grass when grown properly.

With the rotational grazing, the tops are eaten off regularly and it allows plenty of light onto the clover. Because the clovers are eaten off less tightly than the grasses by nature of their more prostrate growth habit, they grow incredibly well and it is only the last week or two before the cows come back in that the clovers are struggling for light among the grasses.

If you are stocked to the maximum, your annual grasses will not make it to seed because they will be eaten off. This is why we need to keep spreading ryegrass seed, which we do from May to August.

We have also started adding Chicory in Spring and Autumn, and when it arrives (it is sold out in WA), will be spreading one of the new winter active Tall Fescues this May to see how they go (in trials they appear to be far more productive than all ryegrasses).

However, we always want mixtures in the pasture. Never put all your eggs in one species.

Our ryegrass is a mixture of whatever clients have harvested, which is a mixture of perennial and annual varieties, and is much cheaper. We spread 5-20kg/ha of seed with the fertiliser (usually nitrogen and potassium fertilisers). The biggest dose of seed is in May and lower doses are added after every grazing.



*Paddock 1, showing green Kikuyu underneath the now dead winter grasses.
Photo 3 Feb 2006.*

We used to spread fertiliser with ryegrass seed and other plant species immediately after the cows were taken out of a paddock, but now we are trying to do it one day *before* they are taken out so that the hooves push the seeds in while the pastures are eaten off tightly.

Besides continuing to improve the nutrition, the only improvements I can see are to find more productive species that we can squeeze in, like the winter active Tall fescues and Chicory (summer growing). We have seen enough to know these will fit in with the Kikuyu and other species.

All the weeds like flatweed, sorrel and silvergrass are disappearing out of the paddocks as the better species are now in less acidic soil and are well fertilised. We did not need to use any herbicides to remove the useless weeds. Just nutrition, lime, and rotational grazing. Those weeds are there because they can tolerate the acidity and poor nutrition better than ryegrass and clover. They get out-competed

when conditions are good.

So if you have deep sand and are in a greater than 400mm rainfall area, and want to make money from cows or sheep, get Kikuyu into the system, rotationally graze it, sprinkle in some grass seed and/or clovers if needed, get the pH >5.0 in calcium chloride, make sure trace elements are at high levels and are well balanced, but especially use nitrogen and sulphur a few times a year. Go on, give it a go.

I am more than happy to walk people over our little farm, but individually or in small groups only. Our cows are very calm and obedient and we do not want to upset them with too many strangers. Have fun. I do.