

A brief history of Listan farm (March 2006)

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Aim: Squeeze as many cows onto the farm as possible without having to maintain them with fodder, and make as much profit as possible while finding out what the limit is.

Location – North Marbellup Road ~20km north-west of Albany.

Size – 10.5ha (26 acres) arable though this is now a bit less than that with two largish dams having been built and one of them having pasture around it fenced off.

Rainfall – 700-800mm

Climate: Cold, frosty, waterlogged and cloudy in winter. Drier summers but usually get some rain each month (at least 20mm usually). Very little pasture growth, historically, in mid-winter.

Purchased August 2003. Existing eight cows allowed to stay on until November 2003 (existing agistment from previous owner). Own cows purchased December 2003. Extra 50+ cows agisted on to the property to eat things down more for a week. Liming and fertiliser begun in January 2004.

Soils: Sand with areas of coffee rock ironstone on some hills, peat bogs on some flats, and some sand areas have white clay underneath anywhere from 0.5m to >1m down. Coffee rock areas dry out within weeks of rain stopping but are productive when wet. Peat areas are relatively unproductive in winter but fairly good in Autumn and Spring.

Initial soil test results (Nov 2003):

pH (CaCl₂): 3.6-4.1 and worse at depth on the peat.

P: 8-12ppm

Reactive iron: 90-590 – most 90-300

K: 40-60ppm.

Fertiliser history: I can't give accurate details as I tried many test strips and areas for the first two years to teach myself what the farm needed the most. Lime was a priority of course and all areas received 4t/ha of Lake Preston lime in Jan 2004, and 6t/ha on the peat areas. 2004 received about 40units P, 100units K, lots of S, plus normal doses of Selenium and Cobalt to get the farm setup. Also applied lots of Molybdenum, Zinc and Copper and played with manganese. Lots of nitrogen was applied in rates of 100-300kg urea at a time to see how well the pasture responded – this gave me more clues on what the pastures needed as pushing them to extreme shows up deficiencies in other things more clearly.

In 2005, another 30units P were applied early in the year with ~50kg K, lots of S, and 7kg Mn, 4kg Cu and 4kg Zn plus Selenium at 1%. Foliar sprays of trace elements were again done showing me that Mn was not a problem, but copper was, and zinc made the cows rapidly eat more. Strips of magnesium sulphate were also spread and magnesium/copper licks were tested with the cows. Showed copper deficiency was still a problem.

August 2005 soil test results:

pH (CaCl₂): 4.1-4.8 but most at 4.7-4.8. Needs to be ~5.5.

P: 15-31ppm (I want it above 40ppm)

K: 110-240ppm (a very surprising result but supported what the plants were showing me). Perhaps the kike has brought up a lot to the surface?

Therefore in January 2006, 300kg/ha Super CZM was applied. This should be the end of trace element applications for another five years or so. Also spread another 4t/ha Lake Preston lime on most areas, with 6t/ha on the peat areas, and 8t/ha on two hectares where the pH was only 4.1. That should be the end of liming for another 5 years or so as well.

Fertiliser strategies from now on are to only add some K in August (~30units) + another 15units P with S and N. From May-August, urea will be spread after almost every grazing with ryegrass seeds mixed in. From August-December, high rates of N and S will be applied as needed just to see how much I can push production. Rates are likely to be 150-300kg Urea / ammonium sulphate mix to supply nitrogen and sulphur. Over summer, ammonium sulphate will be spread at rates of ~200-300kg/ha in front of decent rainfall events, if we need to get the grass growing better.

Current stock: 1 Gelbvieh bull, 3 steers (yearlings about to be sold), 5 unmated Gelbvieh and one Angus heifer, 4 pregnant MG cross cows (3rd calvers), 26 Angus, MG and Limousin pregnant heifers (40 animals in total). Calving due July on. Aiming to obtain another five PTIC heifers that will calve April-May. Bull will be let in with the girls in the last week of September. Aim is to have ~40 cows + 40 calves and then increase numbers as confidence increases. Will sell all steers, keep best heifers and sell worst cows each year. Will switch to Angus or MG bull in 2007 but will bring the Gelbvieh back to produce more heifers as needed.

Paddocks / Pastures: Five paddocks. Kikuyu (kike) based that was already present. At the beginning, the pastures were full of reeds, silvergrass, flatweed and sorrel. Very little ryegrass. Some areas already had strawberry and balansa clover, with splatterings of lotus and Yorkshire Fog.

I have experimented with sowing white clover, balansa's and all sorts of ryegrass. Found best results for us is to buy cheap ryegrass seed people have harvested and spread it with the fertiliser, preferably a day before the cows are removed from a paddock. This way the cows push it into the soil while there is the least leaf area shading the new seedlings. Am adding chicory here and there to see how that goes, and will play with one of the new winter active Fescues, which on paper look like they will fit in really well. Main winter grass at this stage is still perennial and annual ryegrasses that I will need to spread every winter while we have high grazing pressure, but kike is the foundation and is brilliant at what it does.

The aim from now on is in early May is spread ~30kg/ha of ryegrasses, and then about 2-5kg/ha everytime the cows are about to be moved to the next paddock. One paddock will have about 15kg/ha of Resolute (winter active tall fescue) spread instead of the initial high rate of ryegrass but it will still get the 2-5kg/ha ryegrass at the end of each grazing.

One paddock on the wet flats will have about 30kg/ha of Roper (perennial ryegrass) instead of the early big dose of ryegrass mixes. I will keep experimenting with pasture species like this. The main aim is to have very thick winter active grasses from now on.

Paddock 1: Two thirds sandy and one third peat bog. Worst paddock of sorrel and flatweeds still. Not as productive yet as it could be.

Paddock 2: Three quarters wet and boggy in winter. Rest is hillside with coffee rock underneath. Very productive paddock when not waterlogged.

Paddock 3: Smallest and wettest paddock. Mostly perennial ryegrass and clovers. Too wet for kike to survive on most of it.

Paddock 4: Second smallest paddock but the most productive for its size. Half kike based and half ryegrass/legume where it is too wet for kike.

Paddock 5: Our biggest paddock but worst for feed in summer as it is mostly sand over coffee rock hill and dries out very quickly. A very good winter paddock though when everything else is waterlogged. Still needs a lot of ryegrass to be added each year as it is too dry to sustain perennial ryegrass on it.

Photos of the farm.



Mid Dec 2003. First batch of steers arrive on Paddock 1. Note background paddock, Paddock 5, how dead it is even though it had kikuyu over most of it. >50 agisted cows/steers on that paddock to help eat everything down quickly.



Paddock one showing paddock is mainly flatweed, sorrel, bit of kikuyu and some reeds.



Jan 2004 from Paddock 5 looking back to Paddock 1 (lime piles about to be spread). Note uneven kike and plenty of reeds. Paddock 3 to the left – reeds.



Paddock 3 in Jan 2004. Note the areas of no kike and lots of reeds.



Late March 2004 in Paddock 1. Note neighbours to the top left browner and lots of sorrel present. Paddock five (top right) now greener and kike growing better. Foreground shows area where hay sat, showing K needed, and note the centre is perennial forage sorghum growing on the peat area. Did not recover after the winter waterlogging. Better to rely on kike.



Paddock 1 early April 2004 – taken to the left of the previous photo and looking more to the right. Cows eaten sorghum down, and paddock full of sorrel.



May 1st 2004 looking over Paddock 1. Neighbours top left, our Paddock 5 top right. Plenty of feed despite 46 cattle. Neighbour feeding hay with only 8 cattle – same arable area.



May 1st 2004. Looking over Paddock 1 with Paddock 2 in background.



May 1st 2004. In Paddock 1 against Paddock 2 fence showing lots of pasture improvement still needed. This area in March 2006 is far better, but still not right.



May 1st 2004. In Paddock 5 with neighbour paddocks in background. Our kike and clover is growing well but not enough other grasses in it yet.



May 1st 2004. Paddock 5 looking over Paddock 2 in the background. Middle is Paddock 3 with 4 cows and four calves in it. Not a lot of kike in it, but fairly good perennial ryegrass.



May 1st 2004. Paddock 2 in foreground, Paddock 5 top right, neighbours top left.



19th July 2004. Paddock 1 foreground and Paddock 5 in background. Kike browning off from frost and cold. Not enough ryegrass coming through. Feed getting a bit tight.



19th July 2004. What our peat areas look like in mid-winter. Stuff-all feed is the technical term ☺.



23rd August 2004. Paddock 4, our best paddock. Mostly excellent ryegrass. Cows already having trouble keeping it down.



23rd August 2004. Paddock 4 up closer showing some kike underneath, but mostly ryegrass. Legumes in big numbers too, but harder to see. Paddock 2 in background, the next paddock they would be moving to.



23rd August 2004. A very telling photo I think. Paddock 5 in foreground, the paddock the cows just came out of. Cows are in Paddock 4 in middle. Paddock 2 is behind that, but in the top left is a neighbours kike paddock. Just not fertilised or limed. It makes a slight difference I think ☺.



23rd August 2004. Another angle. Paddock 5 in foreground, the paddock the cows just came out of. Our worst summer paddock (dries out very quickly), but very good in Autumn and Spring. Cows in Paddock 4, and neighbours kike paddock in background.



16th Oct 2004. One of Albany's driest Springs and Summers is starting. Paddock 1 foreground, Paddock 5 back right, neighbours back left. Kike N & S deficient but also being frosted regularly, and getting dry. Feed getting tight already. Not enough other grasses present.



Christmas day 2004. Getting desperate for feed on these paddocks (others still OK). Paddock 1 foreground, Paddock 5 back right, neighbours back left.



23rd Feb 2005. Had a bit of rain. One of two new dams being built in Paddock 1 (in middle), Paddock 5 back right, neighbours back left.



27th Feb 2005. Our new dam in Paddock 1. It's filling up from seepage which is why we put the dam there.



18th April 2005. Paddock 5 foreground. Paddock 3 middle. Paddock 1 background. A lot more ryegrass being spread from now on.



21st May 2005. Paddock 5 down near Paddock 3 fence. A lot more ryegrass at last and with the bit more N & S being used, not enough cows to use it ☹️. Winter coming though so the cows should catch up, hopefully????



6th June 2005. Paddock 1 foreground, neighbours in background. All steers were sold 2nd June but were grazing other paddocks down. Had been applying N to all paddocks except Paddock 2, but too much feed to keep down, so no more added since May for the rest of the year.



6th June 2005. Paddock 1 with Paddock 2 in the background. Kike still growing as not many frosts yet. Only 2 cows + 2 calves and 2 preg cows left on farm – until 16th June when the first batch of 23 new heifers arrive.



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



18th June 2005. Some of the new heifers in Paddock 4 where the existing cows and calves had been. Paddock 5 in foreground where all the steers had been grazing it nice and tight.



28th August 2005. Paddock 1 after cows have just been removed. Paddock 2 in background. Spring starting to happen.



28th August 2005. Our last calf finally born (~half an hour old), but the photo is here to show an area of Paddock 5 that I am still not happy with. Too wet for kike and can't get enough ryegrass into it yet. Will be targeting this area a lot in 2006.



17th Sep 2005. Close up of Paddock 1 that I'm starting to be happier with. Finally got reasonable amounts of ryegrass on an area that has small bare areas in summer (<30cm areas). Bits of kike are underneath.



24th Sep 2005. Paddock 1. Cows have been in here for a week. Paddock 5 back right. Neighbours back left is hay paddock so has not been grazed since early August.



2nd Oct 2005. Cows still in Paddock 1 and were for about another week. These are/were our four calves. Kike is growing rapidly now underneath but plenty of grass and clovers still going flat out.



30th Oct 2005. Paddock 1 again showing ryegrass boomed away but though not visible from here, kike is growing really well underneath.



14th Nov 2005. Paddock 4. The downside of too much feed is one is tempted to cut it for hay, something I did not want to do, and should not have. Got ruined by rain before we could bale. Note the huge understory of clover (& lotus) amongst the ryegrass. Too wet for kike here.



14th Nov 2005. Paddock 5 just after cows have been removed. Note a few things. It has not been grazed quick enough, but despite that, tufts of kike have been pulled up (bottom left) showing it is being eaten close to the ground and this is how kike seed gets eaten and moved around the farm in the dung. Kike needs to be eaten tightly for this to happen more.



14th Nov 2005. Part of Paddock 2 on a rocky ridge that cows had not eaten down enough, so we fenced off and cut for hay. Wrong move. Should have left it in hindsight. A lawn of kike underneath but ryegrass boomed during the Winter and Spring.



14th Nov 2005. Paddock 1. Cows are sitting on the bank of the 2nd new dam. Note the lawn of kike underneath the other grasses that are now towards the end of their life.



14th Nov 2005. Paddock 1 up closer. Kike takes over as the winter species decline. Great system I reckon.



14th Nov 2005. Paddock 5 showing how it dry's out very quickly when the rain stops (coffee rock underneath). Middle is Paddock 3, now knee high again with ryegrass. Paddock 1 in background.



3rd Feb 2006. Paddock 1. Note the dead winter grasses, but kike green underneath. Lovely.



3rd Feb 2006. Another photo of Paddock 1 showing green kike underneath the now dead winter grasses.