

FARM PERFORMANCE OF PASTURE GRASSES IN THE  
SOUTHERN TABLELANDS

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#### BACKGROUND

For the purpose of this paper, I have defined the Southern Tablelands as including Goulburn, Yass, Queanbeyan, Braidwood, Crookwell and Moss Vale areas.

I have been involved with the land and pasture improvement all my life and currently operate a grazing property of over 800ha near Gurrundah, running sheep and cattle. The annual rainfall is 650 to 700mm. I also have been involved in registered cereal seed production, as a share farmer and grower, and pasture seed supply and distribution. The following attempts to summarise both my personal observations and those of the many graziers with whom I have regularly communicated over the past 40 years, concerning the performance of pasture grasses.

#### ANNUAL RYEGRASS

My feelings on annual ryegrass in the Southern Tablelands are that it is satisfactory on low fertility, poor country where quick ground cover is required or a quick sale is contemplated. It can be very competitive (in a pasture mixture) for slower establishing species. Whilst cropping is of minor importance generally over the tablelands, annual ryegrass has a well deserved reputation of being a potential crop weed in these areas. There is also the unknown risk of annual ryegrass staggers and, more recently, the problem of herbicide resistance. So why bring in potential problems with unknown solutions?

#### ITALIAN RYEGRASS

These diploid and tetraploid Italian type ryegrasses are shaping up well in areas where annual rainfall exceeds 750-950 mm on good fertility soils, e.g. the basalt areas around Crookwell and Moss Vale/Robertson. Unfortunately our autumn break is traditionally unreliable and it is not always possible to sow them early enough to get early winter feed. However, they do grow extremely well in the late winter/spring and can capitalise on summer/autumn rain as well. Local experience shows that two, possibly three years life is normal. I would be wary of including them at normal seed rates as part of a pasture mixture because of their seedling vigour and would not recommend sowing them with oats where you are contemplating harvesting the oats for grain.

Tetila has performed reasonably well though I understand the newer cultivars Concord and Richmond are outyielding Tetila by 10%-15%, particularly in the coastal areas.

#### PERENNIAL RYEGRASS

Perennial ryegrass is a bread and butter species as part of a pasture mixture. It adapts well to a wide range of soil and rainfall environments. Whilst little seemed to have survived the 1980-82 drought, it has been pleasantly surprising just how much ryegrass has re-emerged (presumably

from seed reserves?) since 1983. I believe it does best where rainfall exceeds 650 mm and certainly grows well in the lower slopes and valley floors where moisture lasts longer. It is an extremely palatable grass, and I would have ryegrass as part of our pasture mixture in over 80% of our property. However, I aim to avoid having more than 50% ryegrass in any one mixture. I regard ryegrass as second only to Demeter fescue for providing high quality palatable feed for merino weaners and crossbred lambs. Occasionally I have experienced a thistle invasion over time. However a light spray of 2,4-D followed by a few sheep, carried out on an irregular basis seems to keep the worst thistle areas in check. I try to periodically spell my ryegrass paddocks in the spring to let them seed down and thicken up.

Regarding cultivars, I have been happy with Victorian, and generally there is a significant seed price advantage when compared to Kangaroo Valley. New Zealand cultivars seem to do best in the better rainfall and fertility areas around Moss Vale/Robertson. I have had no experience with the newer, earlier maturing varieties such as Brumby and Rodeo, though I suspect they may be well suited to hotter, drier and shallower soils, particularly on western slopes.

#### **COCKSFOOT**

I have a very strong regard for cocksfoot, particularly on the low fertility shallow skeletal soils and on the sandy granites where experience has shown phalaris is hard to establish or slow to develop. Currie is a very adaptable cultivar with very useful winter growth. I regard cocksfoot as having reasonable palatability and quality feed when green and Porto is shaping up very well for providing a green pick in summer/autumn under fairly tough conditions. For most of my country I would have cocksfoot as part of a pasture mixture. Bird damage (crows, galahs and cockatoos) can be worse in cocksfoot than ryegrass. The same applies to pasture scarab, though I regard scarab damage of minor importance, only affecting small areas. I have had no problems with established phalaris with either scarab or birds. Occasionally cocksfoot tends to dominate legumes and it can be hard to maintain a satisfactory grass/legume balance - why?

#### **FESCUE**

I regard fescue as a special purpose grass that is well suited to areas of 700 mm rainfall plus, and particularly for the lower slopes and valley floors which can get wet in winter have long growing seasons through the late spring/summer/autumn period. It is my first choice for weaners for summer/autumn feed though you need to keep growth under control, i.e., keep it short. Fescue tends to be relatively slow to establish and it is a hands and knees job to see how it is going in the first year. I always keep my ryegrass seed rate no more than 2 kg/ha when sowing fescue.

I have tried Demeter, Epic and Fawn, and prefer Demeter for all year round performance. Persistence is suspect in low rainfall areas, i.e. below 625 mm per annum and on western slopes with dry shallow soils.

#### **PHALARIS**

I regard phalaris as a bread and butter species for permanent pastures and I would have some phalaris on at least 60% of my property. It has proved to me it is still the best for long term weed control and persistence, even though it can cause management hassles at times. I was ever so grateful I had phalaris as part of my pasture mixtures during and coming out of the

drought because, even though I sell a lot of pasture seed, the economics of resowing pastures are fairly dicey.

Traditionally phalaris was sown on the lower slopes and valley floors where soil fertility allowed it to establish and become very productive in a short period of time. Time has shown it repeatedly dominates the pasture mixture almost to the exclusion of other species. This presents problems with management, particularly for fire control planning (I would never recommend a phalaris dominant pasture on the western side of houses and farm buildings). In these areas I believe it should be either heavily grazed in mid to late spring or cut for hay to capitalise on the green feed that will regrow over summer/autumn. In steep or stony situations which I have in abundance, and never want to have to sow again, the successful establishment of phalaris and subclover enables me to sleep well at night because I do not have to risk life, limb and pocket by having to resow.

As far as staggers are concerned, I believe there are more stock staggering through lack of phalaris than from it. I only experience staggers about once every five years and then only in 1-2% of my stock, mainly after the autumn break. I watch stock at this time of the year and move them quickly. They usually recover within a short period of time. I have not had any confirmed problems with sudden death poisoning and so far I have only experienced phalaris staggers on the Australian and Siroso cultivars and not on Sirolan. My experiences with the newer strains, Siroso and Sirolan, indicate that they will be easier to maintain in balance with other grasses and legumes. However I do not expect them to be as effective for broadleaf weed control as Australian phalaris. I have had no problems with the survival of either Siroso or Sirolan, although I have heard the odd report about Siroso tending to thin out over time. Sirolan seems to be the best type for winter growth and I suspect it may be possible to thicken up both Sirolan and Siroso by letting them run up to seed.

#### PASTURE MIXTURES

The Southern Tablelands is a geological nightmare because of the huge diversity of soil type and rapid changes within small areas. This, coupled with changing slope and aspect within any one paddock means that it is extremely difficult in practice to fence to any one soil type or slope/aspect combination. I favour "shotgun" mixtures of pastures species to:

1. Capitalise on this diversity;
2. Minimise the dominance of any one species;
3. Have a potential source of green feed throughout the year.

My most common pasture mixes are along these lines:-

#### a. Steep-stony (non arable)

<u>High fertility</u>	kg/ha	<u>Low-medium fertility</u>	kg/ha
e.g. basalt			
Australian phalaris	2	Siroso or Sirolan phalaris	3
Siroso or Sirolan phalaris	2	Perennial ryegrass	2
Perennial ryegrass	2	Currie cocksfoot	1-2
Currie cocksfoot	1		

b. Lower slopes - valley floors (eg. more fertile, wetter areas)

	kg/ha
Demeter fescue	5
Porto cocksfoot	1-2
Perennial ryegrass	3-5
Sirosa or Sirolan phalaris	1-2

Clovers appropriate to each region have to be added to these mixtures.

**SALT AREAS**

Tall wheat grass, puccinellia dryland couch and in light salt areas, fescue and perennial ryegrass have been useful in reclaiming salt affected areas provided they are fenced off. Once established, these areas can be valuable for light grazing with rams or bulls to remove excess growth (handy in drought times).

**NATIVE AND NATURALISED PASTURES**

When I first acquired my property, it was dominated by native pastures. Following the traditional thinking that prevailed at the time, my early efforts were dominated by introducing more productive improved pasture species. This increased productivity gave me the springboard to expand my property over time and enabled me to more reliably grow cash crops and finish young animals from breeding stock. Times change and I think we should adapt to these changing times. I have observed what appears to be some very useful native species, (annual and perennial) coming in as part of my pasture mixture. These species include: Microlaena (weeping rice grass) soft brome and barley grass. Interestingly, I have reduced my grass tetany losses by over 90% by using native pasture for lactating cows over the last two years.

It seems to me that there is no one perfect grass or legume and it is a matter of balancing strengths and weaknesses as part of the whole farm plan. I would regard the need for further research and investigation into the effective establishment, management and seed production of some of the better native grasses as being a priority issue facing Tablelands graziers. It is sobering to know that I am unaware of any current work being carried out in the Southern and Central Tablelands looking at native species.

Whilst I have barley grass on my property, and I am able to utilise it reasonably well, I see it as being a major problem for some graziers on the Southern Tablelands. If it is possible to remove in a breeding program the awns off oats and wheat, why not barley grass?

Vulpia, (Rats-tail fescue or silver grass) has spread dramatically since the drought and I have mixed feelings about it. Provided it does not dominate my pasture mixes, it certainly can provide useful growth in the late autumn to early spring period. However, it may become a curse if it continues to spread and dominate pastures as it has done in some other areas. It would seem to me that a top priority is to look at its effect on livestock production under local conditions before we crucify it too quickly.

**FUTURE DIRECTIONS**

Landholders have most of their money tied up in land and stock. The New England work on changing pasture composition by time of grazing and stocking rate has given leads to improving production at no cash cost.

Would it be possible to further improve production by supplementary feeding during this period of heavy grazing, particularly with feeds like lupin? If this is economic then it reduces the stress on man and animals.

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