

Landscaping and bush regeneration with native grasses/grassland plants.

Why use Native grasses

My reason for landscaping with native grasses is that I think we have made a mistake with our gardening culture. We have gathered together a range on exotic plants (and native) from around the world which have nice flowers or scent or are very green etc. Then we replace the native grasses, herbs and shrubs which were originally there with them thinking only of what we gain in terms of flower colour etc not realising that we lose the beauty of the local flora but also their relationship with all the insects, birds, frogs, lizards, and snakes, and mammals that they had. When you clear the vegetation you also in a large degree lose the fauna that goes with it. So my interest is how do we adapt the local flora for our landscaping needs so that we regain some relationship with nature. This can be done on a backyard or larger scale eg park or farm.

Landscaping with native grasses.

Advantages

Fast growing

Adapted to the local rainfall/soils if used in the same position with which they occur naturally.

Related to the local fauna

Natural look rather than a cultivated.

Beautiful

Disadvantages

Perceptions and reality of being untidy

We don't know how to use them yet

Bushfires

Less playing area for kicking footballs.

Types of landscapes

Classical

Native grasses used as a classical landscape feature plant. Here native grasses are used as a feature plant/s in a normal exotic type/park garden.

Pennisetum, Poas, some of the sedges.

Native grasses used as lawns

eg *Microlaena stipoides, weeping rice grass*

Bothriochloa macra, redgrass, or redleg grass common in the ACT. Farmers could collect seed or bale hay.

Both these species because of the lack of seed are more difficult to establish than conventional lawns. One needs to be aware of this if one wants to establish one or the other. Unless one is lucky with weeds and the weather then it will require more work to get it established. The upside is it should require less work water and mowing once it is established.

Problems in using native grasses in this setting as will be to manage them to keep them matching the surrounds. Also care in species selection will help here.

Bothriochloa and *Microlaena* have a role to play in the lawn and pasture area.

Bush gardens

Native grasses can be used in the whole of your bush garden or if you don't like the untidiness then in a more inconspicuous part of it. They can be used to replace a lawn and keep the spatial relationships in a garden of a large open space filled with grassland plants rather than a lawn.

Native grasses will tend to spread from self sown seed after the first year or two and will begin to establish a sward dominating other plants in the mix. If you don't want this then you need to confine them to where you want them which is fairly simply done by weeding them out. The advantage to them seeding down is that they will form a reasonable homogenous sward which is what the eye sees rather than the individual shape of the plants. This reduces the untidy look and even kangaroo grass is acceptable to people who like classical gardens if it is in a large enough sward.

Grassland Herbs and shrubs

I plant my grassland areas with a range of grassland herbs and shrubs. Most of these would be around the same size as a grass plant. This helps in the process of recreating a grassland which is a goal we are working towards but also adds colour and interest through the year aspects of gardens which most people are interested in. Many of the herbs which grow locally in the grasslands of the ACT do very well in a garden situation and often will spread throughout the garden. These include *Vellias*, bulbines, vanilla lilies, buttercups, bluebells and many daisies such as *helichrysums*, *Calotis*, *Helipterums* *Bracteantae* etc. It is well worth while to experiment with these and many of the others herbs and shrubs which grow in our grasslands. Gurawin nursery and Dealbata nursery at Dalgety have probably the best range, although Yarralumla nursery is also buying in grassland herbs from these and other areas and reselling them. Some of the shrubs which do well are *Merbelias*, *Pulteneae* *subspicata*, *Pimelias*, *Daviesia*'s, some acacias. There are many more to try and use some of which we have tried but cannot yet report on yet.

The trick here is to balance a certain experimentation with thing you know are reliable so that you don't have a total failure. There may be a study group starting up soon which will specializes in trying to grow grassland herbs.

Bush Regeneration of grassland areas.

One uses bush regeneration techniques when one has a bit of remnant grassland rather than an old lawn etc. It is used to restore an area rather than to revegetate (revegetate vs regenerate) It is often applicable to Rural areas, or developments on rural areas, Nature parks or if your lucky enough to have some remnant grassland on your city block. E.g. Jerrabomberra estate, Conder. However you need to get there before the bulldozer driver and mark out areas where you want left. Bush regeneration was pioneered by the Bradley sisters and the NSW National trust. It is quite amazing what

areas can be recovered. In Sydney I have seen them tackling impenetrable areas of privet, lantana and various vines. It can take hard work and persistence over a number of years. But there are a few "principles"

1. Work from areas of good grassland to the worst areas.
2. Remove threat to the area eg weeds African love grass, grazing, traffic through the area, excessive tree growth, excessive run off water
3. Don't do more weeding then you can comfortable handle reweeding.
4. Survey the area first know what are your weeds and what native species are included, roughly map the area and make a species list.
5. Plan your action by knowing your resources, what are the main threats to the area.
6. Get good advice and consider who you get advice from eg if it is from a herbicide salesman he may not know much about native grasslands, similarly someone who knows grassland may not know much about herbicides or weeds similarly the Department of Agriculture. However they will all have expertise which may help, tell them the problem but consider their limitations.
7. Experiment on small areas.

However Bush regeneration of native Grasslands is a new field so don't take anything as "gospel".

Some threats to grassland areas

1. Overgrazing
2. traffic of people, animals or vehicles
3. woody weeds
4. annual weeds both broadleaf or grass
5. Perennial weeds of both types
6. Tree regrowth
7. Changing draining patterns

We will consider mainly the weed problems.

When grazing pressure is removed native grasses will often start to regenerate and given time will probably compete against many weeds. This is true on Farrer Ridge on the hill tops where some of the pasture grasses will not persist without fertilizer and grazing. It is often the combination of the two which gives the advantage to exotic species.

My own feeling on these areas is that as long as there is no really invasive weeds then these areas will regenerate under there own steam. However where we need to help, we should go carefully and experiment on small areas first. In some sense you are a the forefront of work in this area with anything you try.

Once excessive grazing is removed the main threat to these areas is weeds. The main weeds are annual weeds, broadleaf weeds, woody weeds, Perennial grass weeds. How you attack them depends on the size of the area, the resources at your disposal.

The main considerations are:

What species is the grassland composed of and

What are the main weeds

However you will need to be creative and get as much advice as you can and be prepared to experiment.

To illustrate the different effects of weed type and grassland type here are a few egs.

C4 Grasses such as Kangaroo grass or redleg grass because they are summer growing are susceptible to invasion by annual weeds which grow and seed down when they are dormant.

For example if you have an infestation of wild oats in Kangaroo grass then you could cut the tops of the wild oats by slashing etc. or use a spray which only kills c3 grasses like wild oats but not c4 grasses like kangaroo grass.

An infestation of vulpia (rat's tail fescue) in redleg grass could possible be handled by a light spray with roundup when the redgrass is dormant and not so susceptible to roundup.

Phalaris in kangaroo or redleg grass areas could be handled by using a c3 specific herbicide or spot spraying with roundup in spring when it is actively growing. However in all those treatments if you have a C3 native grass like wallaby grasses then you might have to find a different treatment. Here a cool burn to stop the vulpia seeding could do the trick as vulpia usually does not have a long seed life in the soil (one year).

Burning could also be an important tool in grassland regeneration but go carefully as some weeds like fire also. Burning may also encourage the germination of the seed of many native species. However it may be best to start small trying various things like time of year etc. However results will differ because of differing weather patterns from year to year.

So we can see here that such things as the target weed species, the composition of the native grassland, time of year, size of area etc. all are important.

Experiment on small areas first, consult with others doing similar work

Small areas might be hand weeded or slashed.

Aftercare

After you have sprayed out or pulled your weeds aftercare is important, weeds can invade quickly or you can end up with a whole new suite of weeds. It is possible to reduce this by mulching or by resowing with collected seed or hay. It is important not to bite off more than you can chew. So one needs to follow up to get rid of the returning weeds before one extends the size of the area being treated for weeds.