Strategies for successful perennial pasture establishment and production in the Upper Wimmera & Central region of Victoria

The establishment of perennial grass pastures in the Upper Wimmera & Central region has always been problematical but the recent years of unreliable rainfall has presented greater difficulties for producers. As part of the group's extension in the region; Perennial Pasture Systems has been using anecdotal accounts to compare the efficacy of autumn – early winter establishment with late winter – spring sowings.

Weed Control

The importance of weed control has been reinforced in the past two drier seasons and it is probably the most important factor in a successful establishment. Despite the extremely dry conditions in 2014 and 2015 PPS members have been able to establish high quality perennial pastures where a high level of weed control has been undertaken.

Successful weed control has been achieved in target area in the time prior to pasture establishment through winter cleaning and spray-topping techniques, adequate crop rotations, grazing strategies and good knock down weed control. Good planning is required 2-3 years ahead to ensure that the chosen paddock has weed issues under control.

Soil Temperature

Grass growth is slowed at soil temperatures below 10*C and for this reason winter sowing is problematical south of the Great Dividing Range due to the prolonged period of low soil temperature. Winter soil temperatures in the Southern Wimmera & North Central region drop below 10*C for a shorter period giving an opportunity to sow pasture for much of the winter period.

During 2015–16 PPS installed a series of soil moisture/temperature probes which will provide more definitive information on soil conditions in the region in the coming years which should assist producer's decision making in relation to pasture establishment timing.

Sowing Times

Autumn – early Winter Pasture Establishment

Pros

Early establishment allows for good plant growth prior to winter which may improve the pasture result.

In years of good establishment, the pasture can be grazed sparingly during the spring.

Sub clover can be successfully sown at the same time.

There is potential for good control of barley grass, capeweed, soft brome and erodium (corkscrew) in years with at least a moderate autumn break. The bulk of these seeds have often germinated by the end of May.

Sowing Times (cont)

Autumn – early Winter Pasture Establishment

Cons
In drier years there may be insufficient moisture for the sown plants to establish successfully.

Low soil temperatures in mid winter may slow plant growth.

Annual weeds with a long germination window are likely to germinate after autumn sowing and as such control is often ineffective. Both Wimmera ryegrass and silver grass are examples where autumn-early winter sowing often occurs while weed seeds are still germinating (other common species which emerge throughout winter include crassula, wintergrass, fog grass and toadrush). These species can often germinate until mid-spring.

Late winter – Spring Pasture Establishment

Pros
The later sowing allows more time to ensure that weed control is adequate.

Soil temperature is high enough to allow for unimpeded plant growth.

On farms with cereal cropping operations, later pasture establishment timing can spread the workload.

Cons
New plants may not generate enough root growth to allow them to survive a dry spring or long, hot summer.

Sub clover sown at this time doesn't have sufficient time to grow and set seed for future years.

In most cases the new pasture cannot be grazed until the following autumn.

In wet years sowing may be delayed due to the inability to get machinery onto paddocks.

A few "rules" from PPS members

Sowing
Sow into moisture is recommended for optimum establishment, with follow up rain coming.

Plant seeds at the recommended depth; of between 10-15mm; sow no deeper than 5 times the length of the seed

Use recommended seeding rate for the area. In a grass system, nitrogen fixation by clover is important for grass growth, so sow adequate amounts of sub-clovers initially.

Use a seeder that can accurately sow small seeds. Seed is expensive, so not getting good establishment is false economy. Results of a properly set up drill are superior to a small seeds box on a combine.

Fertiliser
A comprehensive soil test is recommended prior to sowing any perennial pasture. This is recommended 2-3 years prior to sowing, so if corrective action is required a plan can be put in place (i.e. liming, gypsum etc).

Based on soil tests an appropriate fertiliser strategy can be developed. As with all small seeds there is a need to make sure not too much Nitrogen fertiliser is placed with the seed.

A few "rules" from PPS members (cont)

Species and mixes

Choose a grass that is proven in your area; Phalaris is a proven performer in this region; Cocksfoot and fescue have also provided good results if managed properly. Perennial Ryegrass does not persist well in most situations in this region.

Consider maturity and types of clovers. Sub-clovers are recommended to be sown with grasses.

Clover seed needs to be inoculated for best results irrespective of sowing time.

Use good seed. Certified seed with a germination test is the optimum.

Grazing

Don't graze heavily unless grass seed has set and don't graze for long. After all this is a 15 year proposition; don't jeopardise this for a few days grazing- it's a false economy.

Do not overgraze during clover flowering; allow it to set seed for future years.

Future Research

PPS is continuing trial and extension work in the region which will assist producers in their decision making when planning perennial pasture programs.

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