

The enduring role of AW Howard's sub clover in a productive livestock system.

By Charles de Fegely

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Introduction

I am honoured to have been considered for the AW Howard Medal, let alone be the recipient for 2019. Awarding me this honour appears to be a break with tradition of previous winners, as I am the "end user" of much of the work undertaken by AW Howard and for that we are extremely grateful, as our system is dependent on the performance of sub clover. By winning the award, it allows me the opportunity to share my experiences in developing a persistent and productive perennial pasture system based on perennial grasses and sub clovers.

Background

In 1923 our family moved to Quamby, which is 12 kilometres east of Ararat in western Victoria. The property was 520 hectares with an average annual rainfall of 575mm. Our soils are clay to clay loam basalt type with a pH (CaCl) range of 4.4 to 5.5 and a soil phosphorus range of 15-50 mg/kg (Olsen P). Close to 50% of the property is basalt rock barrier and is not suitable for cropping. The sheep flock was made up of superfine self-replacing merinos. When my great grandfather started running the property, he had a total of 1,000 sheep, a lot of rabbits and four people working for him.

When my father took over the management of the property in 1949, he introduced superphosphate and sub clover along with Australian Phalaris. The sub clover varieties sown were either Mount Barker or Woogenellup and the combination of "super and sub clover" increased stock numbers from 1,000 to 3,000 sheep being run on the property. In 1966 when wool prices were low my father started to sow crops of oats for cash and supplementary feed.

In 1973, when I came home to work with my father, we continued cropping but with little rewards given waterlogging and frosts in late spring. In 1985 my father chose to go into state politics and left me to run the family property. At that time, we reviewed our operation and decided to reduce the cropping and increase our livestock operation. We then decided we needed to undertake a major pasture renovation program as the cropping program left us with some very unproductive pastures.

Currently we have 1,600 hectares under management with some land leased as well as our own. We are running 7,000 composite breeding ewes and 200 calves which we are backgrounding for the feedlots. This year we have sown 120 hectares of red wheat and 250 hectares of annual rye and clovers. The cropping program is for the supply of supplementary feed and or pastures for weaning. We aim to sell all our lambs prior to Christmas for slaughter at 20-22kg carcass weight or to finishers as store lambs. Our aim is having all sale stock sold before the end of December with only next year's breeding ewes remaining into the New year.

Pasture Improvement and Management

Prior to undertaking the major pasture renovation program in 1985, I had sown ten hectares of Trikkala sub clover and Phalaris and the results were inspiring. I was also a member of the Grassland Society and attended many field days which demonstrated the benefits of improving pastures. The Department of Agriculture ran a trial in the early 1980s on a neighbouring property that compared a renovated pasture with an unimproved pasture and the increase in production and profit was close to double. At the same time, I went to a Grassland Society Conference in Hamilton which had a tour to the Pastoral and Veterinary Institute to inspect the

“Long Term Phosphate Trial”. At the conference we were told by Peter Schroder, from the Department of Agriculture, that when sowing a new pasture, we should sow 10kg of Trikala sub clover.

Whilst carrying out the pasture improvement program I participated in the “Prograze Course”, which was an MLA initiative. This course taught us about pasture establishment and management along with livestock management. It was invaluable and sadly the pasture establishment and management courses and trials are not readily available today. The learning for me was to closely match livestock demand with pasture availability. This remains a key factor in our management today, as we aim to maximise our pasture production whilst we optimise the number of livestock we run during the growing season and run our core flock in the dry times.

Thirty years after the renovation program, the clover remains as strong as it was when first sown. However not all the grasses have remained, so we are either replacing them with Holdfast GT or sowing an annual rye grass which lasts for 2-3 years and is re-sown. The annual grasses can be grazed in autumn with little or no animal impact and allows us to keep our perennial grasses ungrazed and undamaged from grazing.

We now apply fertilisers, as required, following soil test results and this includes applying lime. We have not used any insecticides on our pastures once the pastures are established. We occasionally need to control flat weeds (in particular capeweed) with the spray grazing technique. The other weed we need to control is barley grass which appears if the perennial grass population diminishes. A crop of red wheat or spray topping is the best method of control and then re-sowing a new grass the following year.

We are constantly evaluating new species as they become available. We do this in conjunction with The Perennial Pasture Systems (PPS) group in Ararat or seed companies. However, we are having trouble establishing new clovers as Trikkala sub clover is prolific, setting large quantities of seed. We have recorded up to 1 tonne per hectare of Trikkala seed in the top 2cm of soil.

The success of maintaining a good sub clover stand once it is established is a combination of appropriate fertiliser, grazing and managing seed set. We avoid over grazing during the summer-autumn period and aim to retain at least 1,000kg of dry matter per hectare during that period.

Livestock Improvement

Initially our flock was based on superfine merinos. In 1975 we introduced more productive merinos from Hazeldean based in the Monaro, which increased the cut per head and did not change the fibre diameter. This increased our production per head and helped to improve the profitability of the operation. As our pastures developed, we decided to move to a dual-purpose merino and focus on wool and meat. Several years later we introduced the high fertility merinos from Bundilla Merino Stud at Young. This new addition dramatically lifted the fertility of the flock through the “Booroola” gene. The scanning rates lifted from 130% to 170%, however our marking rates did not lift as much.

In 2012, when my son Richard returned home after completing Marcus Oldham College, we decided to change the flock more towards prime lamb production. I had introduced some maternal composites (East Friesian x Poll Dorset) to our merino flock and the results were very encouraging. We had been using Australian Sheep Breeding Values (ASBVs) when selecting sires for some time, which gave us great genetic gain and progress in production which provided a great base for a prime lamb flock.

Through careful selection on growth, fat and muscle we have increased lamb (foetus) survival from 55% to 87%. We have increased our lamb growth rates so that we have lambs at a slaughter weight of 22kg carcass weight in 120-150 days. No longer do we need to carry as many young sheep during the summer autumn period and that has reduced the amount of supplementary feeding.

Management

Our challenge going forward is to manage seasonal variability, as our system is pasture based and it requires us to constantly carry out pasture feed budgets and then adjust stock numbers accordingly. Our flock change from wool to prime lamb means we need to reduce the number of stock that we carry during the summer autumn period. It also allows us the opportunity to significantly rebound numbers if we need to destock due to low rainfall.

Having experienced dry times, we have developed triggers based on when we get the autumn break and if spring finishes early. We constantly have stock classed according to performance so poor performers can be sold if required. We have found to sell early is better economically and environmentally and we do not "wait and hope". Selling stock in good condition generally does not draw anywhere near the discount, but still has to be weighed up with the cost to carry.

We sell about 40% of our lambs for slaughter with the balance (largely twin born) being sold to lamb finishers. We have capacity to finish lambs in our feedlot but in recent times it has not been economical for us to do so. Our focus from weaning is to look after next year's breeding ewe and the ewe replacements.

One of the major programs that we have been working on in the past few years has been lamb survival. We have increased the survival of foetus to marking from 55% to 87%. This we have achieved by pregnancy scanning our ewes and lambing the twin bearers in small mobs (60-110) in small paddocks (8-12 hectares) that have high quality pasture. That is at least 1,000kg Dry Matter per hectare of 40% sub clover, 40% perennial grass and the rest being annual grass and no dead pasture.

Consultancy and Open Farm

In 1991, when I was the president of the Grassland Society of Victoria, I was approached by Dr Peter Sale from LA Trobe University to get the society to apply to the Australian Woolmark Company (AWC), now Australian Wool Innovation (AWI), to seek funding to set up producer paired paddock programs. The program became known as the Grassland's Productivity Program (GPP). It ran from 1993 to 1996 and had 120 producers set up paired paddocks to compare their current management with productive pasture systems.

The program allowed producers to evaluate a new pasture system with their current management whilst being guided by an agronomist. It provided the participants with the skills and knowledge to increase production on their properties with confidence. This program was very successful and went on to be run by Rural Industries Skill Training (RIST) at Hamilton and extended to a larger number of producers.

Following my time with the GPP program, I became a member of the International Wool Secretariat (formerly AWC now AWI) Zone Advisory Committee where I spent three years helping to set up research and extension programs for woolgrowers. The joint IWS and MLA, Producer Initiated Research Development (PIRD), was one of the programs that I was involved with. Interestingly it is still running today and is funded by MLA. That program allowed groups of producers to carry out their own research whilst being supported by a consultant.

From 2000 to 2010 I worked part time with Mike Stephens and Associates, (now operates as Meridian Agriculture), where I worked with producer groups seeking pasture and livestock management advice. I found that as I had my own property, I was largely providing advice on what I did on my farm and what was successful and what was not so successful.

We have carried out many different pasture trials to evaluate their performance and as a result I have hosted many field days and tours to our property to inspect the results and discuss pasture and livestock management. Since 1989 we have had over 5,000 people visit our property to inspect the work we have done.

Conclusion

I was extremely fortunate to have started my farming career when there was a large amount of supportive research and development in pastures. This provided me with a resource that gave me the confidence to renovate new pastures and lift our livestock productivity. Sadly, the young farmers today do not have this wonderful resource.

My wish has always been to see pasture research that involves animals and not motor mowers. A case in mind was the "long-term phosphate trial" at Hamilton. Currently all we have is data from pasture trials cut with mowers and this gives us only part of the picture.

I firmly believe that we have a productive and profitable livestock system that includes sub clover thanks to the previous research carried out by the Department of Agriculture Victoria and the development of sub clover by AW Howard.

The majority of our pastures are at least 30 years old and their performance and returns are equal to the best cropping farms in our district year on year. They are sustainable and can be a great example to the wider community as a way to manage climate change in the future. To this end we thank Amos W Howard.