Getting started on the pasture pathway

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Abstract: *There are many pathways to productive pastures. Each pathway depends on a number of intersecting parameters such as history of the property, topography, soil type, climatic conditions and livestock choices. Most importantly the pathway to achieving productive pastures depends on where you want to go. This presentation offers an example of the beginning steps taken on the journey. It describes the importance of learning, observing and making informed decisions.*

Keywords: Small farm, weeds, beginning steps, goats, Southern Tablelands

Introduction

My partner Catherine Fox and I purchased the rundown former sheep property in 2015 with the intention of providing a home for our thoroughbred brood mares and retired racehorses. Over six years we have had a lot to learn and the farm is being transformed to a productive operation. We now run angora goats including a breeding programme for Australian Heritage Angoras, Murray Grey cattle and horses. This paper outlines our journey on the pathway to productive pastures.

Farm Description

Oakey Range is located at Biala (-34.59061192911227, 149.26326501522942) about halfway between Gunning and Crookwell in the Southern Tablelands of NSW. The 350 acres (141 hectares) consists of a hilly landscape with numerous granite outcrops. Prior to purchase, the farm had been destocked but as it had been overgrazed, the pastures were weedy and the fences were in poor condition.

Soils and landscape

Oakey range is situated at an elevation of 700 metres. The soil is mostly granite with some alluvial creek flats.

Soil tests taken in 2018 and 2020 show that most paddocks are deficient in phosphorus and sulphur. The pH is mostly favourable with aluminium levels below 5%. The North Facing Hill paddock is a favourite stock camp and has reasonably high fertility compared to the rest of the property (Table 1).

Climate

The average rainfall for Biala is 700 mm but from 2017–19, the district experienced severe drought conditions. Since February 2020 rainfall has been above average with 890 mm recorded last year. (Bureau Meteorology Station Number 070111). Oakey Range experiences typical tableland temperatures with very cold winters and warm to hot summers.

Livestock

The property runs a commercial mixed livestock operation consisting of 200 commercial Angora goats and 60 head of Murray Grey cattle. In addition, the property is the major centre for a conservation breeding program of Australian Heritage Angoras. We also have five horses.

Pastures

The property consists of mostly native pastures typical of the Southern Tablelands, Wallaby Grass, Redgrass and Weeping Grass. Sub clover has been introduced to the native grass.

Weeds

Prior to our purchase the property had been over grazed by sheep then was destocked for several years. This provided a competitive advantage for a variety of weeds including Scotch and saffron thistle, cape weed, English broom, Briar rose and blackberries. There was also a moderate amount of serrated tussock but a high-risk level of incursion from neighbouring properties. Despite aerial spraying, weeds were still a problem. Strategic grazing using our goats have brought most of the weeds under control.

Our Pathway

We had a lot to learn. We were not farmers and had very little experience with pastures.

The learning curve has been steep and we take advantage of as many training opportunities as possible. We have participated in Prograze and have attended various short courses and field days including the NSW Grassland Society Pasture Update and Spring Pasture Walk. We find the Small Farm Network and LLS provide some very useful training opportunities.

As the property was so run down, we have had to implement an infrastructure replacement plan. We have built new goat and cattle yards and upgraded the shearing shed. The boundary fences have been replaced and a laneway system to facilitate stock movement has been installed. Internal fences have been upgraded to improve rotational grazing.

Some tree plantings have been undertaken, especially on our boundaries. We are hoping this will reduce the number of weed seeds been blown through the fence.

The next step

The water infrastructure on Oakey Range is very poor. The stock water is provided from two creeks. This has proven to be inadequate, especially through periods of below average rainfall. We are planning to build a large dam and reticulate water to the paddocks. Once we can improve the water supply, we plan to further sub divide some paddocks to improve grazing management.

Soil fertility needs to be addressed. Superphosphate application seems to be the obvious choice of fertiliser as the main deficiencies are phosphorus and sulphur and the easiest to spread on our hilly and rocky terrain.

We would like to include more trees for environmental plantings. Also, we are interested in the role of fodder and browse trees, such as tagasaste, for the goats. As we are bringing the weeds under control, we need to provide more browse for the goats. They have very poor immunity to intestinal worms so forcing them to graze the pasture can create health problems (Love and Greentree 2017).

Conclusions

Here are the three key messages for those starting out on the pathway

- Take the time to understand your environment (each property is different). Work with/ in harmony with your landscape (don't impose your will on it)
- Educate yourself first and foremost. Seek advice but don't follow blindly.
- It's ok to work at your pace. Not all pathways have to be an expressway.

Acknowledgements

References

Love S and Greentree K (2017) Managing worms in goats in NSW. NSW Department of Primary Industries *Primefact* 1564

Table 1. Soil test results from various paddocks at Oakey Range in 2018 and 2020

Test	Units	P-Highlands (2020)	Wise tree (2020)	Flats (2018)	Persia (2020)	North Hill (2018)	Maestro (2020)
pH (caci)		5.0	4.9	5.2	4.8	6.0	4.9
Phosphorus (Colwell)	mg/kg	6.3	5.8	15	9.8	56	7.8
Sulphur (KCl40)	mg/kg	<2	<2	2.5	<2	4.3	<2
SOC	%	1.9	1.7	1.6	2.0	2.6	2.2
Potassium	cmol(+)/kg	0.52	0.35	0.58	0.5	1.3	0.5
CEC	cmol(+)/kg	4.1	3.03	7.4	3.9	12	5.5
Aluminium	% CEC	4.0	3.0	N/A	4.0	N/A	3.0