

MANAGEMENT TO MAINTAIN SOIL PRODUCTIVITY:

MANAGING PASTURES FOR A MIXED SHEEP/CATTLE ENTERPRISE

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SUMMARY: "Colcurra" is a 560 ha property in the Coonabarabran district of central-west New South Wales running cattle and sheep enterprises; wethers for wool, Santa x Hereford breeders and steer grow-out. Over the past ten years, 64% of the farm has been pasture improved from a native/grass subclover base using introduced legumes (lucerne, white clover, subclover and serradella) and more recently Consol lovegrass and Premier digit grass. Maintenance rates of superphosphate are strategically applied and grazing management is directed at rotating stock at regular intervals for pasture rejuvenation. Stocking rate has increased from some 500 DSE on improved pasture to 2,300 DSE today. We believe topdressing improved pasture, letting pastures seed down, and the building up of humus and soil quality will in years to come improve our stocking rate and make smaller areas more viable.

Farming life began for us on a dairy block in Victoria's Murray Valley. With the sale of the family farm in 1980 we moved to the irrigation country of the southern Riverina. While there we produced rice, sorghum, wheat and prime lambs. The weekly appearance of the fuel truck prompted us in 1984 to go for a straight grazing block hence the move to the Northern Slopes.

Property history

"Colcurra" (situated 15km from Binnaway and 50km south of Coonabarabran) is a 560 hectare property with average rainfall of 600 mm, predominantly summer.

When purchased, the property was run down to the extent that pasture was basically spear and wire grass, other native grasses and sub clover. Very little fertiliser had been used.

It was obvious the plough had to be brought out of retirement. We produced crops of barley, oats, triticale and cowpeas. With the familiar sight of the fuel truck, and a long-term goal disappearing it was decided in 1986 to embark on a pasture improvement program.

The program

Firstly, we had to look at soil types and what pastures would be most suitable. "Colcurra's" soil types consist of good red loam, running to light loam to sandy loam. Breakdown would be 100 hec-

tares, 100 hectares, and 240 hectares respectively, with 120 hectares green timber and shelter belts.

Since 1986, we have been sowing down at least one paddock (average 30 hectares) to pasture each year, a total of 360 hectares of improved pasture to date.

Lucerne, white clover and sub clover were used on the heavier ground. White clover and sub clover, serradella and Consol lovegrass were sown on the lighter ground. Grasses were not sown in these paddocks; the reason for this is that they are shut up for hay production, season willing. In the last two years, Premier digit grass has been introduced in this mix with outstanding results. Given a normal year, the two grasses in this mix have proven to carry a body of feed in the late autumn.

Pastures were established under a cover of oat and barley crops with reasonable success, but the last three years have been sown without cover crops with impressive results. Cycled oat paddocks which have been cropped for at least two years are sown to pasture, as this also helps to eliminate summer weeds. The preferred sowing time is from the end of February to the end of March, aiming to establish pasture before winter hits. These paddocks are only grazed lightly for the first 12 months with two or three rotations at most.

To properly manage and establish permanent pastures, and given the costs involved, we choose to sow only small areas annually. We have tried to

curb expenses by establishing our own harvesting seed of Consol, Digit and Serradella (three varieties).

Fertiliser program

"Colcurra", being a virtual square with parallel fences from front to back, lends itself to fertiliser application. Ten tonnes of single super are applied at 125 kg/hae for two out of three years. As well, all crop and pasture paddocks sown receive 60 kg/ha of Starter DAP. The super program has been in operation for nine years now.

Stocking rates

"Colcurra" was purchased with the view of a wool/prime lamb enterprise, but this idea was soon lost. We found the unimproved pasture was flat out running 500 DSE.

This in itself was another reason for pasture improvement. By the mid to late 1980's we had, with super application, and some renovation, lifted our numbers to approximately 1000 ewes (2000 DSE). We were heading in the right direction. Even so, the pressure of early spring lambing on newly established pastures, was too great.

It was obvious the property did not have the carrying capacity. Even with the addition of summer forage crops it was still difficult to finish lambs to prime saleable condition.

At present, we run a combination cattle/sheep enterprise consisting of approximately 60 head of Santa x Hereford breeders, 800 wethers and opportunity steers ranging from 50-70 head (2300 DSE). This demonstrates a carrying capacity of 5 DSE/ha on our cleared country only. We consider this a conservative rate.

Grazing management

Grazing management policies are relatively simple. Our aim is basically not to overstock and to rotate the stock at regular intervals to allow fairly rapid rejuvenation of pasture. Under normal seasonal conditions this is achievable, however, the last 12 months during drought conditions have been extremely difficult. A small, but adequate supply of "on farm" fodder enable us to weather this dry period with minimal pasture damage.

Weed control

As with most district properties, we have the usual annual weeds, such as skeleton weed and saffron thistle, which are relatively easy to control with a chemical spray/graze technique or slashing. Bathurst burrs are not a concern, a good weekend work chipping keeps these under control. On our lighter soils, however, it is a different story with spiny burr grass coming into bloom in early summer. Approximately 40 ha are affected; and this creates a problem with grazing sheep on these paddocks. Wool contamination and the reluctance to handle the sheep in this condition leave us no choice but to stock this small portion with cattle only. We are confident we can beat this weed problem with proper management. For example, the use of chemicals/minimum tillage so as not to disturb the soil unduly, and more importantly the introduction of summer perennials such as consol lovegrass and premier digit grass to create competition.

Conclusions

We believe topdressing improved pasture, letting pastures seed down, and the building up of humus and soil quality will in years to come improve our stocking rate and make smaller areas more viable.