



Increasing stocking pressure to achieve even grazing

SITE INFORMATION

Landholder: Jason Brace

Location: Poochera

Annual Rainfall: 300 mm

Site description

The key soil type on these sites is a highly calcareous pink gradational sand to sandy loam.

The high levels of carbonate in these soils result in very low nutrient availability (particularly phosphorus and trace elements). The lighter textured topsoil also has low moisture holding capacity and a moderate to very high wind erosion potential.

The project focuses on three paddocks, Slagels (197 ha), Dusky Ute (110 ha) and Peppertree (129 ha). These large paddocks consist of dune swale systems with highly erodible linear dunes. There is a general lack of ground cover and the only watering point is poorly placed at the most southerly end of Slagels paddock. There are small patches of native vegetation along the southern and eastern boundaries and in the middle of the eastern fence line of Slagels paddock.



Aim and Objective

Jason was concerned by the high erosion risk on the paddocks and wanted to investigate alternative methods to reduce the effects of wind erosion on dunes, improve feed utilisation and reduce tracking to the single watering point at the most southerly end of Slagels paddock.

Jason's program is a two year (crop/ley pasture) rotation. He runs 900 sheep in small mobs. Mace wheat was planted on the site in 2012.

Jason met with farming systems consultants to develop a management plan for the site. One option considered was to clay spread or delve the worst sand dunes in Dusky Ute paddock to improve production and increase surface cover.

However, as the sand on the dune was greater than one metre deep, delving the site was ruled out (typically delving machines are only able to bring up clay from a maximum depth of 65 cm). Clay spreading was considered, however analysis of soil samples taken from the 10 - 50 cm layer in the soil profile of the flats showed that the soil texture contained only 8% clay (a sandy loam). This is not a high enough clay content to make clay spreading the site an economical option.

Jason then looked at including the two adjoining paddocks - Slagels (197 ha) and Peppertree (129 ha) - which also had the same issues. It was determined that given the lack of suitable clay for spreading or delving, the best way in which these objectives could be achieved would be to establish a central watering point for the three paddocks. It was also recognized that Slagels paddock was too large and that by subdividing the paddock, grazing could be better managed and damage to the remnant vegetation in the paddock could also be limited.



Site selected for the central water point.

Short and long term benefits

Grazing management is the key to improving feed utilisation as livestock can waste a lot of feed through trampling, fouling and selective grazing. Jason wanted to utilise these paddocks more effectively for cropping and grazing. By installing a new central watering point Jason saw an opportunity to manage grazing, reduce stock traffic over fragile dunes and improve feed utilisation through rotational grazing. Changing the way paddocks are managed and by splitting Slagels





paddocks to create two paddocks (Eaglehawk) gives longer term flexibility and also reduces the impact of sheep on the native vegetation.

Approach/Methodology

How and what was done?

The first step to improving grazing management over the 436 ha was to look at the most cost effective options to establish another water point.

Site selection of water points is critical to prevent erosion around the site. The topography and size of the paddocks, location of existing water pipes, native vegetation and existing tracks were assessed.

The site selected for the watering point is at the junction of Dusky Ute and Peppertree under scattered tall mallee on a rise with limestone rubble present.

A triangular paddock was fenced with Station Cyclone 5:70:45 and a top plain wire with posts 10 metres apart; also three large "cocky" gates were installed to enable stock and machinery to move around the site.

Jason made the decision to make the central watering point slightly bigger to include the mallee trees for shade and shelter. This also gave Jason the opportunity to use the area for hay and feeders and use the site as a short term confinement area.

A 4.2 metre concrete trough and a 22,500 litre storage tank was installed. Connected to mains water, this tank not only supplies water for livestock but is can also be used for spraying thus reducing travel time to water sources further away.

Slagels paddock was subdivided with 5:70:90 cyclone and top plain wire with one post and three droppers every ten metres and was sited to limit livestock access to protect native vegetation from sheep camps and unwanted tracking through the site to water.

The new paddock Eaglehawk is watered by the original water point.

The fencing and water points were completed at the end of the 2012 harvest, allowing Jason to trial his rotational grazing system with 200 maiden ewes in 2013. Volunteer wheat germinated in February following summer thunderstorms providing green feed over late summer and autumn.

In late February, Slagels was grazed for one month with 200 ewes, accessing water from the existing water point. The ewes were moved onto Dusky Ute for the

next four weeks. Just prior to lambing the ewes were moved into the Peppertree paddock with fresh feed and shelter. The fourth paddock will be used when the ewes finish lambing and the medic has established.

In April 2013 Jason used a snail bait spreader to spread the dunes with medic to further help improve feed and soil cover.

Successes

Jason is delighted with the new layout and has already seen many benefits.

In late autumn Jason now has an abundance of feed in the rested paddocks and is continuing the one month rotational grazing.

Jason has observed that there is a huge difference between the demonstration paddocks and the rest of his property where he has set stocked 200 to 300 ewes in paddocks ranging from 100 to 400 ha. Once he has marked the lambs, Jason aims to shift them all onto the trial paddocks to increase the grazing pressure. Higher stocking pressure will encourage more even grazing across the paddock, which will help to reduce weed competition, reduce weed seed set and promote better growth of the annual medics.

Tightening up the rotation during the spring flush will allow other pasture paddocks on the property to build up surface cover which reduces risk of erosion as well as increasing dry matter reserves for later in the season. It is hoped that with the change of management medics will produce a better seed set resulting in improved germination the following year. Jason now has the ability to discourage the sheep from tracking over dunes and camping in the native vegetation. Through better management of stock grazing he has increased soil cover over the summer period and the paddocks are less prone to erosion.

Jason has found that monitoring and managing the sheep is much easier.

The grazed paddocks are rested allowing pastures to recover and grow before being grazed again. He has been able to use one sheep feeder for four paddocks resulting in less wasted feed and reducing his work load by only having to check and monitor one trough.

Jason has been inspired to implement these ideas in other areas across the farm. He feels that the increased flexibility in this system allows him to make better management decisions.



Jason Brace inspecting the new water trough.

Jason said “I have found that shifting the sheep from paddock to paddock has been extremely easy with minimal stress on the sheep and myself and no lambs were left behind when I shifted the young ewes with lambs at foot through the wide gates”.

This change in grazing technique allowed other paddocks on the farm to be freed up and as a consequence, Jason has also had the chance to control wild turnip by spray-grazing with low rates of MCPA.

Challenges and lessons learnt.

Even though the central water point site was in an excellent position it will need some maintenance from time to time with the addition of limestone rubble to keep the site stabilised and minimise erosion.

The mallee trees will need to be monitored for damage from stock by rubbing and ring barking, and may have to be protected to ensure they are not damaged as they provide invaluable shade and shelter.

The challenge will be to increase the medic cover during the pasture phase. The use of rotational grazing will allow the plants to flower and set seed instead of being selectively grazed. Jason would also like to establish a water point at the northern end of Dusky Ute paddock to improve feed utilisation and give more flexibility to manage the sheep grazing patterns.

Increasing the stocking pressure to achieve even grazing across the paddock, while still having confidence that there is enough feed available in other paddocks, will be a challenge. However, with continued monitoring of available feed and livestock condition, this process will become easier over time. It is important to leave enough vegetative cover to allow the pasture plants to recover and grow enough dry matter to be grazed in three to four months time

Conclusion/Recommendations

Central watering points are a cost effective method to supply water to several paddocks using a single infrastructure. It is vital that the watering point is established on a stable site with little or no erosion potential (laying a pad of rubble can help on lighter textured soils). A header tank at the trough supplies clean fresh water to the trough and can provide a reserve in case there is a break in supply. Ideal flow rate into the trough should be 1 to 1.5 litres per second.

Troughs between 2.4 and 3.6 metres in length are recommended and if the flow is good, sheep should be able to come in to drink without waiting for water. This practice reduces overgrazing and camping around watering points.

Matching stocking pressure to pasture growth by rotational grazing management is the key to improving feed utilisation. In spring, pasture growth is much faster and livestock rotation times can be reduced. Sheep are easily trained to be moved every few days or weeks.

Jason said “a central watering point helps with moving livestock, as opening the gate to the new paddock through this point will encourage the sheep to walk through into a fresh paddock with little time and effort”.

Rotational grazing with high stocking pressures can also reduce preferential grazing of specific pasture species.

References/Acknowledgements

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