

GRAIN & GRAZE 2 CASE STUDY

Grazing crops: An opportunity to increase farm profitability

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Profile

Damien, Tracy, Simon and Lesley Schlink

Location: "Dorglen" in the Mt Howick district, east of Esperance and "Tareel" lease nearby, Western Australia

Farm Size: 3,924 ha and 1,313 ha on nearby lease

Annual Rainfall: 400-475mm with typically 30% of that falling over the summer and early autumn months.

Soil Type: Non-wetting sand over gravel and clay duplex

Enterprises: Sheep, cattle and cropping, with a 60:40 ratio of cropping to annual pasture. The normal 5 year rotation is pasture - pasture - canola - wheat-barley on 80% of their farm, with the remaining 20% under continuous cropping.

Esperance farmers and brothers Damien and Simon Schlink had their first taste of grazing crops in 2009. Always prepared to look at new methods to improve profitability of their mixed farming operation, the brothers agreed to build on their experience by participating in the 2010 Grain & Graze 2 grazing trial.

"This was an ideal opportunity to learn more about how not to destroy crop yield whilst gaining valuable sheep and cattle feed at a time of year when pasture growth rates are typically slow."

In 2009, the brothers planted 60 hectares of Wylah grazing wheat with the plan to graze the crop and harvest a "normal crop yield" at the end of the season. This idea arose after looking over the fence at a neighbour who had started grazing crops in 2008, with positive results. However, rather than automatically believe it would work for them, Damien and Simon wanted to see first-hand how the concept would work on their property, given their soil type is non-wetting sand over gravel and clay duplex and their rainfall was lower than their neighbour's.

The trial begins...

After a patchy germination from low seeding rainfall, they held back on grazing the paddock until the crop emerged more evenly and those plants late to emerge were big enough to be grazed. Looking back, they now understand that this decision cost them yield, as the



older plants were beyond Growth Stage 30 which is considered the time to remove stock. This experience highlighted to the brothers the importance of knowing when to introduce stock to a crop so that any potential yield penalty is minimized.

Not ones to be discouraged, they remained optimistic about the concept and determined to learn how to make grazing crops work. In late May 2010 they planted 150 hectares to Wylah wheat and committed 35 hectares to be part of the Grain & Graze 2 trial. An area was wired with portable electric fencing so that it remained ungrazed. As their header had yield mapping capability, it meant grain yield from this area could easily be compared with the yield from the grazed area.

Livestock and crops working together

Ewes and lambs were put onto the unfenced area of the paddock at a stocking rate of 28 DSE when the wheat was at growth stage 22. With lambing in February/March, it was easy to use ewes and lambs for this purpose. Surprised at how evenly and quickly the sheep grazed the wheat down to 4-5 cm in height, Damien and Simon decided to allow the mob to graze the remaining 115 ha of Wylah.

In total this mob spent 21 days grazing the wheat which meant one annual pasture paddock was spelled. Damien and Simon realised that this was also an ideal opportunity to eliminate brome grass from the clover with a grass herbicide and allow the clover density to increase.

Given the late break to the season, this spell came at a time when paddock stock feed was low and meant that the mob of ewes and lambs went back onto a paddock with plenty of quality feed.

Damien noticed that the grazed wheat paddocks grew back rapidly, but so did the barley grass and ryegrass which has convinced him to only choose paddocks with a known low grass density but also ensure opportunities such as pasture manipulation are not missed. This was not previously the case in low rainfall years as any available feed was kept for livestock. Now Damien can see that even in low rainfall years, grazing crops allows some pastures to be manipulated so that the troublesome grass weeds do not become a problem in the subsequent grazing crop.

Slight yield decrease balances out grazing benefits

The grain yield at harvest completed the trial and both Damien and Simon were surprised at the result as they anticipated the below average rainfall over spring would have been detrimental to the grazed crop. However, the grazed area yielded better than it looked, averaging 2.63 tonnes/ha of APW 2 wheat compared with an average yield of 2.76 tonnes/ha of APW 2 wheat in the ungrazed area. The difference of 150kg/ha meant the grazing cost them \$38/ha but when the grazing value of \$25/ha was added, the shortfall was only \$13/ha.

Damien and Simon can see this \$13 would easily be made up by the better quality feed in the spelled pasture paddock, and are now interested to learn if the ewes and lambs gained more weight on the wheat than if they had remained on annual pasture. This in depth economic analysis is being undertaken with the data from all of the Grain and Graze 2 trial paddocks over the three years of the project.

Overall, through two years of valuable grazing crops experience particularly knowing crops can still yield well in a tight spring, Damien and Simon remain optimistic and are keen to expand into further grazing of canola. They believe that grass weeds will be far easier to control in canola after grazing, than in cereals. As long as grazing is commenced as early as possible, a lighter stocking rate over a longer grazing period will be implemented with both cattle and sheep to be used.

Modifying the crop mix to control weeds and disease

As far as grazing cereals go, they will now look at growing Clearfield IT (Imidazolinone Tolerant) wheat where grass weeds such as brome and barley grass can be controlled after grazing. Barley will also be tried as it is grown at the end of the rotation so if a grass blowout occurs, it can be dealt with in the following pasture phase. Given their current barley variety choice is Baudin, which is highly susceptible to the foliar disease powdery mildew, grazing will form a

way of implementing “Canopy Management” which will keep the crop canopy open during the crops vegetative phase and minimize the ideal conditions for build-up of the disease.

In years blessed with an early break to the season, Damien and Simon believe they can increase stock numbers by increasing the area sown to crop and grazing a significant percentage of the crops, which will help increase overall farm profit.

When a late break occurs, Damien and Simon will graze crops as a way of maintaining stock numbers. It will ensure quality feed is available to hungry stock without having to hand feed whilst also deferring grazing pressure off their annual pastures, providing time for pasture density to increase.

“The best advice we can offer to other farmers is to treat grazing crops as you would treat all other crops; grass weeds must be under control otherwise the problem will become worse if these crops are grazed, know when to introduce and remove stock. Grazing crops provide a real opportunity to significantly increase farm profitability.”

Acknowledgments



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