Grain & Graze 2
Profit through knowledge

Back to the Future at Bute – returning to sheep for grass control and profit

After many years of continuous cropping and direct drilling on their Yorke Peninsula farm, Scott and Sue Ramsey were facing increasingly high populations of brome and ryegrass with multiple resistances to commonly used herbicides. Bringing sheep back into the rotation proved very effective in getting on top of their grass weed problem while maintaining profitability and infrastructure value.

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The Ramsey family farm, called Malbereg, was started in the early 1920s by Scott's grandfather who began with 445ha. The farm is now 1600ha in size and is run by Scott, Sue and their employee Nigel Williamson. Located 5km south of Bute, the 350mm annual rainfall country is predominantly rolling sandhills with a lesser area of heavy clay and the odd rocky rise.

Scott Ramsey in wheat crop the year after grazing

Cropping history and herbicide resistance

Resistance to herbicide application was originally noticed back in 1993 at a time when a breeding sheep flock was still part of the operation. Some paddocks had up to 10,000 brome grass and ryegrass plants / square metre which appeared resistant in tests to commonly used pre-emergent and post-emergent grass herbicides. At the time, 338ha were taken out of production for a year and knocked down with Credit and Bonus at 3L/ha. That reduced the population down to 91 plants/ square metre in the following crop.

Not long after that, continuous cropping saw the main sheep flock removed, although some were occasionally brought in to make use of stubbles. Because of erosion problems and to improve crop-sowing efficiency, the Ramseys began direct drilling in 2002. This led to increased chemical dependence and a slowly growing resistance problem, which saw weed counts return close to the 10,000 plants/ square metre level in

High levels of brome grass in crop

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some paddocks. Scott admitted that "when using more chemicals, unless you have the timing absolutely right every time you can actually strengthen weed resistance by not killing them properly."

Herbicides used were "the traditional things" like Treflan/Avadex in cereals followed by a grass herbicide in the pea or lentil phase. Resistance had become evident not only to these herbicides but Scott says he has a "patch of Roundup resistant weeds" as well.

One of the problem weed paddocks in 2012 was a canola crop where Intervix, Select and Targa herbicides failed to control the brome and ryegrass giving a yield of 1t/ha. Scott estimates that was a loss of approximately .5t/ha, which at $600/t amounted to $300/ha. This paddock was due for rotation to wheat but in an effort to better control the weeds most of the paddock was sown to barley with the worst affected areas sown to oats. Boxer Gold was used on the barley ground, which was windrowed at the milky dough stage and sprayed with a knockdown. The oats were cut for export hay and the paddock treated with a knockdown afterwards.

Livestock

Scott had grown up with sheep and was well aware of the benefit they could offer in terms of a non-chemical weed control option so he and Sue decided to re-introduce them to the farm operation. This necessitated some infrastructure rebuilding as a number of fence lines had been removed during the continuous cropping years.

During the last couple of years, approximately 500 Merino ewes were purchased in October and mated to White Suffolk rams. Lambs and ewes are sold on the hooks in the following September. "There is only a very short time when there are no sheep on the place now but they are turning over annually."

Grazing crops and grain recovery

In 2013, after discussion with his advisor, Bill Long of Ag Consulting Co, Scott decided to use sheep to graze a newly planted barley crop exhibiting around 1800 brome grass plants/ square metre. "We grazed it for eight weeks and then we took the sheep out of that field and still harvested 3.2t/ha of barley. It appeared that the grazing had little or no effect on the yield."

"Another barley field alongside with a similar weed level was grazed for 17 weeks. There was nowhere else we could put the sheep so they went in on a one-leaf crop. The funny thing was they never touched the crop but just ate the weeds that the herbicides didn't kill. The crop finally got away from them and we pulled the sheep out in the first week of August and subsequently harvested 2.4 t/ha. They had grazed right down low and had even taken the sweet barley grass out as well, so that didn't seed."

"I really wanted to go back to a more simplistic way of getting rid of grass weeds. I know that sheep are a simplistic, non-chemical method because I grew up with them. The big change was really in the last couple of years just trying another mode I knew would work."

The main experiment

In 2013, an interesting opportunity arose for the Ramseys to be able to compare the production of grain, hay and lambs in adjacent paddocks. To better make use of the newly introduced sheep, a 172 ha paddock had its fencing re-established to create three paddocks: 50ha, 50ha and 72ha respectively. The 72ha paddock

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was sown to lentils. The two 50ha paddocks were sown with oats and the entire sheep flock was originally given the run of both those paddocks. The intention was to just graze the oats for the whole year in an effort to reduce a very high brome grass population.

“What we found was that the sheep couldn’t keep up with the crop so all 950 ewes and lambs were confined to one of the paddocks and the other side locked up. They stayed there for the best part of three months, which enabled us to cut the other paddock for hay. That was unexpected but a welcome opportunity to get the brome grass out.”

The 50ha with the sheep was eaten down to nothing, seeds and all. When they were removed for a couple of days the paddock was sprayed. ”When we put them back in they ate it to the dirt, nothing left. You can virtually say that all the money we made from the sheep came out of that one paddock. We direct drilled it this year and now have good-looking wheat crop with a relatively low weed burden.”

Scott offers the following summary of gross margins on the three enterprises:

Paddock	Detail	Incolme/ha	Costs/ha	Gross Margin/ha
Lentils 72ha	1.4t x 70ha @ $780/t	$1092	$369	$723
Hay 50ha	360 bales 50ha 4.2t/ ha @ $135/t	$583	$317	$266
Grazing 50ha	400lms @ $105 450 ewes @ $75 wool $10,960	$1742	$660 incl shearing and cost of ewes	$1082

Scott Ramsey was impressed with the result even in that good cropping year. “I didn’t think that was what was going to happen when I first started because I didn’t know where the pricing was going to end up with the sheep. Providing the pricing remains similar I’m just confident the sheep will be profitable every time.”

He says it is important to note that the sheep grazed the areas worst affected by weeds and had they grown lentils there the yields would have been lower.

The costs for re-fencing the paddocks were about $2000. The other infrastructure such as watering points and yards was all still there.

One of the key things for Scott was choosing oats as the actual grazing grain because that gave him two options: grazing as a good feed source and if the crop was getting away from the sheep, cutting for export hay. He could work out his costs for hay production easily and says that the wool shorn off the sheep more than covers costs for shearing.

Had he chosen to grow barley for grazing, although a better food source, it might not have been the best option for weed control, which was really the main game. “I would have had to spray it off or cut it very early with windrowing and then spray it. That would have exposed the weeds to yet another chemical treatment. I

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wanted to make sure we got rid of the grass because I was working for next year not this year."

Nowadays, break crops are generally lentils, oats, canola or hay followed by wheat and then barley. "That gives lots of options to suit the particular paddock." The use of Clearfield canola, wheat, barley and lentils also assists with grass control.

Scott Ramsey in paddock with spray topped brome grass

What's happened to the grasses?

An area that once measured nearly 10,000 brome grass plants/ square metre when grazing commenced is now down to about 80 plants/ square metre in a healthy looking wheat crop in 2014. "It's our first year doing this and it's worked really well. Sheep are a lot of extra work but I know the control is pretty good compared to what it was and at very low cost as well. I would like to think we will soon be at a 90% continuous crop and 10% could be flexible to sheep or whatever else. It doesn't fit everywhere but we are going to try to make it work."

The main reason Scott cites for not introducing sheep over more of the farm are the practicalities of moving sheep along a main road and also re-fencing more paddocks. They have considered roll-out electric fencing but felt that the costs were quite high so the plan is to re-establish traditional fences where required. That might not be necessary everywhere as weeds are quite easily controlled on many parts of the farm.

"Had we not made the change back to sheep we would have had our two worst fields out of production because I don't think the chemicals would ever have done the job."

What would you change and advice to others?

One of the main things that Scott Ramsey says he will change about his sheep program is to buy in younger sheep. "We had quite a lot of deaths last year and I think we can pay a bit more and get some younger ewes. If you buy too young, they wont graze paddocks properly. If you buy them too old, some die and you lose profitability."

He cautions anyone thinking about bringing sheep back onto a property to "get your fencing up to date before you bring the stock on. Then life will be pretty easy. If you haven't got reasonably good fences then don't enter into this because you are forever playing catch-up. If you have sheep eating crops they shouldn't be eating and getting into your neighbor's paddocks eating their crops all it does is cause friction. Good

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advice is to make sure your infrastructure is there to start with and if it's not make it right before you even go into it."

It's important to zone your paddocks with fencing according to where the grass is. If you know there has been a history of grass in certain areas then either fence it or pull the fence out that is dividing a weedy area so you can block it up into those zones of high grass populations.

One of the pitfalls in this or any other farming enterprise is predicting the commodity price for what you hope to sell whether it is sheep, hay or grain. Scott says "don't put all your eggs in one basket."

Satisfaction in getting things right

For Scott and Sue Ramsey, getting a difficult resistant weed problem under control and seeing crops improve without yet another chemical method was a real achievement. "There's a certain satisfaction that we have actually begun this process to bring our farm infrastructure back up too. There's satisfaction to see that we have bred some nice profitable lambs off of areas that haven't been able to give us good crop production. Seeing those lambs get on the truck last week and head off was a very good feeling after having gone down this road."