



Gary Pollard

Shingle Hut, Wycheproof

Farming for Sustainable Soils Project Case Study



Gary and David Pollard

STUBBLE MANAGEMENT

"We stopped burning in the mid-1980s. Most paddocks are 128 ha, but some are 88 ha.

"We have about 320 ha of difficult red soils. I was leasing about 200 ha and in 2014 I conventionally fallowed 80 ha and sowed it to barley. But it was a complete disaster. The gypsum that I applied didn't have enough rain to work and the paddock had not been loved and there was hardly any straw - gypsum needs both rain and straw to work effectively. It was also the hardest paddock to work in 2015. In 2015 the paddock was sown to vetch, but failed again.

NATIVE VEGETATION

"Two to three per cent of the farm is native vegetation. There are some good old trees in the swamp. We gained seven hectares when the channels were filled in and planted that up. We also direct-seeded six hectares of sand hills and planted another six hectares on the home block near the shearing shed.

DROUGHT INSURANCE

"Because we had no subsoil moisture at all and they predicted an El Nino event, I took out drought insurance in 2015. It cost me about \$10 per hectare and basically covered my input costs of around \$250 per hectare to put a crop in and a couple of summer sprays. Whether we get the insurance paid out or not is all based on the August and September and October rainfall.

WATER

"I have an 8 ML stock and domestic water right from the pipeline that costs me \$2000/ML. The pipeline is great for the sheep side of things, although we are still learning. We can lay 1.5 kilometres of 40mm poly pipe in one day. I have shifted a number of troughs inside the batter of the dam. It takes the sheep away from the fenceline and allows them to come at the water from all directions. It means more travel in the summer time to go and check your troughs but our ground will benefit from it because it results in much less bare ground.

Early emergent 2015 crop on the Pollard's property

FUTURE PLANS

"We would like to get our debt down and then buy more ground and run more sheep. Because of the dry conditions we have had to sell 400 of our Merino ewes, so we would like to build up our numbers again. We have enough feed (stubbles) to see us through until February without having to put out hay.

"To protect our ground we will also set up more water troughs in better spots, such as under a clump of trees, rather than on a fenceline."

MORE INFORMATION

For more information on the Farming for Sustainable Soils Program contact Phil Dyson at the North Central CMA on (03) 5448 7124 or email phil.dyson@nccma.vic.gov.au

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FARM FACTS

8 km south of Wycheproof, Victoria

ENTERPRISES:

Broad acre dryland cropping, plus 1000 self-replacing merino ewes

PROPERTY SIZE:

2,800 hectares (1,800 hectares cropped in 2015)

AVERAGE ANNUAL RAINFALL:

375 mm (200 mm in 2014)

ELEVATION:

60 m AHD

MOTIVATION FOR CHANGE

Moisture efficiency. To get more yield from the limited rainfall received.

INNOVATIONS

- > Development and application of liquid chemical application to soils at the time of sowing
- > Focus on soil health

KEY RESULTS

- > Improved moisture efficiency
- > Improved soil health and soil structure
- > Improved crop yields
- > Improved profitability.

INTRODUCTION

Gary Pollard is a fourth generation farmer who farms with his brother David on the property known as Shingle Hut, a 2,800 hectare (ha) cropping farm just south of Wycheproof. Originally a 128 ha holding, the Pollards purchased more land over the years. They also run one thousand self-replacing Merino ewes.

Gary says, "the long-term average annual rainfall is 375 mm but in recent years it has ranged between 270 and 320 mm. If we can get 200 mm of rain in a growing season then that is a good result. But in 2014 we didn't even get 200 mm for the year. The black ground was a fizzer but the red and the loamy ground we got something off. Some farmers got summer rain and their crops went extremely well. But generally the district missed out.

"The farm has been highly productive outside the drought years. 1995 and 1996 were our best years where our wheat crop averaged 4.2 tonnes per hectare.

"In 2014 we averaged 0.8 tonnes per hectare of wheat and 0.6 tonnes per hectare of barley. Where we chemically fallowed one paddock went 1.2 tonnes per hectare.

"We store barley on farm and sell it direct to the dairies. Australian Standard White (ASW) wheat also stays on farm and we sell the higher grades to get some cash flow.



Gary Pollard at the mixing tanks

"Our seeder, which we bought second hand from Western Australia in 2006, was manufactured in 2003. That's how we got into liquids because the seeder was set up for UAN (Urea and Ammonium Nitrate) when we bought it. We are set up with nine inch (22.5 cm) spacing on the seeder.

"We have been applying liquid nitrogen in the form of UAN and have used Flowphos (Liquid MAP) for two years. I gave it away for a couple of years because the UAN and Flowphos got too expensive and I put urea out instead, but I wasn't happy. So then I went back to UAN and I have been getting a better response from the crop.

"In 2015 we did a trial with the liquid fertiliser Calx and trace elements. We haven't had great success because we have to change a bit on our seeder. We got half of it right, but the other half we have got to improve. Our system was made for UAN and because we are now applying microbes we need to install a new pump and a new infiltration system on our seeder, though we have upgraded the bar kit.

"We have applied 1,000 tonnes of gypsum every year for the last three years. In 2015 we started replacing the gypsum with Calx as a trial.

"In 2014-15 three quarters of the farm received one summer spray and the rest received two sprays. With the boom spray we make four or five passes over a paddock in any one year. By moving to liquids we hope to reduce that.

“Using liquids only instead of granules allows us to sow more hectares in a day. Currently we are sowing 128 ha in a day but we can sow 200 ha.”



Gary Pollard (right) with his son Thomas, and FSS Group Coordinator Craig Cossar

“In 2014 there were parts of our farm where we went to chemical fallow and on that ground we tripled the yield. If we had chemical fallowed the whole farm it would not have been a drought. The crop was direct drilled and went 1.4 tonnes per hectare. Our neighbour, who uses conventional fallow and who got 50-75 mm more rainfall than us, saw his best paddocks only go 1.6 tonnes per hectare.

“We are also still seeing the effects of the flood where the loamy hollows stayed green for a very long time.

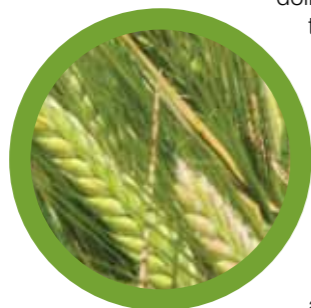


FSS Group Coordinator Craig Cossar explains the soil monitoring equipment installed across the district

THE WYCHEPROOF FSS GROUP

“We participate in the North Central CMA’s Farming for Sustainable Soils project so we have access to the data from moisture probes installed on properties across the district. We have one probe on our property but it hardly even registered in 2015 because we had no sub-soil moisture.

“We have a hostile limestone barrier at 500 mm below the surface. Two thirds of the FSS group members also have this hostile layer. The topsoil has compacted, but not the subsoil. All the fines have gone down to just below where we work creating a hard pan that ranges from 450 to 650 mm below the surface.



“One really good thing about the local FSS group is that we can have trial plots in our own district. We need local knowledge about how to manage our soils. The Birchip Cropping Group (BCG) does trials but they have loamy soils, and their crops can go down to a metre. Our soils need different management. Deep ripping trials in this area in 2014 were a real challenge. We chose a really hard paddock.

“I don’t want to deep rip. I know I have good cracking in my subsoils and I don’t want to disturb it. I would just like to get an extra two inches of useable topsoil. Rather than go out and use a heap of fuel I would rather do it naturally with big-rooted crops that can break through the hard pan and then we’ll be right.

“We are now using knife edge points and ripping a bit deeper than before.

“The FSS group has resulted in us doing more soil tests and seeing the importance of the information resulting from the tests. I also now apply trace elements because of my involvement with the group.

“The group’s soil testing is allowing us to question the knowledge of the agronomists servicing the area. It involves learning about your own dirt. The trouble is that a trial needs to run for five to six years before you can be confident that the change in management is going to be sustainable.

“Members of our group went across to Grant Sims farm at Pine Grove, near Lockington. Grant has been using liquids for a few years. We were all amazed at the friability of the soil and the amount of biological activity. We also learnt about the benefit he was getting from calcium which encouraged us to set up the calcium trial back here at Wycheproof.

“I was introduced to Calx at one of the FSS group meetings. I would not have met the soil scientist Christian Bannan if it had not been for the group.

CROPPING

“We crop two-thirds of the farm every year and in 2015 we sowed 1,840 hectares to crop (720 ha of barley, 640 ha of wheat, 200 ha of vetch and 280 ha of oats). One third of the farm is flood country. We put the sheep on that ground and we also rip it up. We only work it once or twice a year with knife edge points.

“Using liquids only instead of granules allows us to sow more hectares in a day. Currently we are sowing 128 ha in a day but we can sow 200 ha.

“I’ve not done soil testing in the past. We just always applied 60 kg of MAP and 50 kg of urea per hectare, and that’s what it got. In 2015 I had Christian Bannan come up and we dug six soil pits across the property and analysed the soil.



Gary Pollard checking seed distribution after sowing the 2015 crop

“Christian then made up a brew that we apply with 40 kg of UAN. Soil tests show that we have about 250 kg per hectare of available Nitrogen in the deep, so we have just cut it back to 25-30 litres of UAN. Our soil tests also show that our P is also high so we have halved our phosphorous input as well.

“It was interesting that in one of our group discussions, a speaker talked about a test he did where some paddocks had no MAP and others had the traditional 40 kg of MAP and in 2014 there was no difference between the crops.

“I am pretty keen to grow the use of liquids in a big way and to unlock the N and P in the soil. I decided to go with 30 litres UAN in 2015 in case it turned out to be a poor year. And it was.



Sowing the 2015 crop on the Pollard's farm

Below: Farm walks are an important part of the FSS program



“Through the FSS group I went to a stock containment day in Berrimal back in March and I learnt a lot from that event.”

SHEEP

“The property has always been a mix of cropping and sheep. We used to have 1,500 ewes in the 1990s and would lamb in April, and we were 3,000 acres shorter then.

“We lambed about 100 per cent in 2015 because we run them in large mobs and because of the size of the paddocks. We run Alpacas with the sheep and sheared 1,300 woolies this year. I always look forward to shearing time because the B-double arrives at the same time and we send the lambs off to Bendigo. By May 2015 we had already put about 100 tonnes of barley (\$25,000), plus an unknown amount of hay, down their throats. In 2014 I got my best ever wool clip. I hit 70% clean wool (the other 30% is grease, dirt and burrs) and I have never done that before.

“Through the FSS group I went to a stock containment day in Berrimal back in March and I learnt a lot from that event.



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SUMMER WEEDS

“If we get an inch of rain in summer we go out and spray weeds. Using Glyphosate 450 and Garlon we get them when they are still small.



We store barley on farm and sell it direct to the dairies.