

# Life-changing discovery

## leads to more nutritional approach

A growing awareness of 'we are what we eat' and growing more nutritious food for his children is seeing third generation Wimmera farmer Shannon Byron make significant changes in the way he farms. Changes aren't happening overnight and some of the positive steps forward have been more by accident than by design, but there's no going back and plenty to look forward to.

### SNAPSHOT

#### Shannon and Emma Byron

Kellalac, Wimmera, VIC

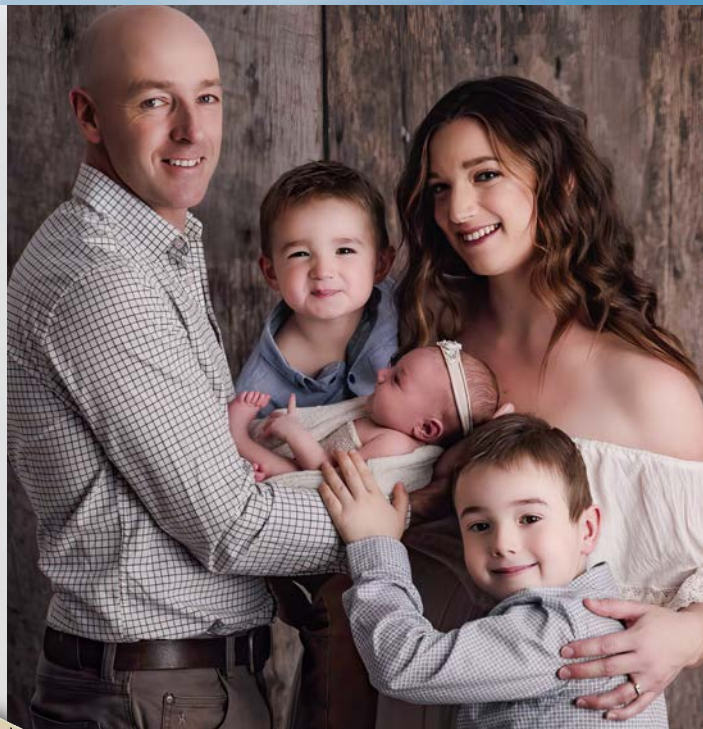
Mixed broadacre cropping, sheep and cattle

Farm with Shannon's parents Kim and Lynette

Minimum, no-till system with stubble retention since 1985

Changed to a reduced input, biological system with a nutrition focus in 2019

Kellalac



Shannon is in a mixed farming system with his wife Emma and parents Kim and Lynette at Kellalac near Warracknabeal.

Over the decades the family has added more hectares to the initial Soldier's Settlement block his grandfather moved to in 1949, and also farm on leased country.

Shannon has been actively involved on the farm since the age of 10. He started driving the sprayer at 12 and school holidays were spent working on the farm.

The first really dry year he remembers was 1997, and although he was young, he recalls feeling like the whole year was wasted.

When a promising athletics career got cut short by injury in 2005 Shannon returned full-time to the farm at a time that couldn't be more challenging. It was during one of the worst droughts in history, referred to as the Millennium Drought.

"Those years were just horrible. I know you need moisture to generate income, and the simple fact was we didn't have hardly any, but I can see now that our farming practices were partly to blame."

He says they were producing large biomass crops with high input costs and the drought's long run of high temperatures and lack of finishing rains took a significant toll.

"Some of those years would shape up okay until we got to July-August and our crops started to shut off due to lack of moisture. We'd spent all that money on inputs and at harvest we'd have nothing to show for it."

He recalls 'super hot' finishes, including one year where temperatures during October reached up to 40 degrees Celsius and 'shrivelled everything'.

"This was another one of those years where everything had been paid for and all our inputs were in the paddock, and we just got hammered. During that drought it was quite easy to tip in a lot of money but not get much back, or go backwards pretty quick."

*Background image, tree planting in 2007 the height of the drought and below those same trees established in 2011.*



*“We are a high-risk industry and are so vulnerable to the elements.”*

### Conventional system

Their soils are mixed and range from heavy black and grey self-mulching flats to sand over clay to mixed red ground.

The cropping rotation has always been mainly cereals – wheat, barley and canola. They also grow lentils, chick peas, peas, beans and vetch for seed or hay. They used to grow lupins until radish problems developed from herbicide resistance.

For their sheep and cattle, they sow a basic multi-species mix of vetch and barley combined with whatever else germinates in the paddock.

What doesn't get grazed they windrow before it goes to seed in late spring to preserve feed and reduce summer fire risk. This helps them secure feed until May-June the following year.

The family has also undertaken numerous Landcare and property-improvement projects with Wimmera CMA through the Australian Government's National Landcare Program, including building stock containment areas and shelterbelts to improve farm biodiversity .

### Finishing challenges

Shannon says 'finishing' challenges are common in the Wimmera, whether it be frost, drought, grasshoppers, mice, other insects or rainfall impacting them at the end of the growing season. Their heavy country is particularly susceptible to crops 'falling over' quickly in dry conditions. Also, being in a lower rainfall area presents added challenges.

“In our system we always seemed to be pinched, with high screenings, large biomass that wouldn't go through to grain-fill and plants with nutrient imbalances, resulting in less resilience through drought.”

One proposed solution during those drought years was to take on more ground and upgrade machinery, with the consensus being this enabled you to generate more income and pay down debt quicker in better years.

“This is not something we adopted but at that time we did have a considerable level of debt. We didn't want to work our whole lives to try and pay off the farm but we worked as hard

as we could, seven days a week.

“It wasn't very good for our lifestyle and it has taken a toll on all of us and we've missed out on a lot of things, but we never said it's too hard or wanted to quit. We just put our heads down, bums up and got things done.”

Although the drought resulted in significant crop losses they held onto their livestock, and were able to keep moving forward.

*“The livestock saved us; we may not have survived that drought without them.”*

### Striving for better

Shannon and his Dad share a dry sense of humour, a positive approach and a willingness to take on new things. They have always strived to do better and improve their methods and the way they managed their farm. When it came to the core basics of agronomy and



*“The penny dropped. What was the chemical we were pouring onto the paddock doing to the soil?”*

soil biology, they relied heavily on the guidance of others.

But one of their paddocks had Shannon stumped.

“We had one particular block on our lease country where we grew canola, and we seemed to need a lot of synthetic inputs, yet we had very poor germination and infiltration. The following year the paddock laid a lot of water and things just got worse. We spent more money on inputs, it was

“I knew something wasn’t quite right but I didn’t have a clue what I was searching for.”

costing us more than we were making.”

In 2017, Shannon started looking in more depth into what might be causing these hard pans and herbicide damage.

He came across a paper highlighting that one of the chemicals they were using was deadly on soil bacteria. He found another article on soil health and biology by internationally acclaimed nutritionist Graeme Sait from Queensland.

### **Angry and misled**

After a ‘shocking year’ in 2018, Shannon convinced Kim to attend Sait’s Certificate in Nutrition Farming in March 2019.

“I was pretty sure I was ready to change something, but it needed to be something Dad wanted to do as well. Rather than me come back from the course with all these new ideas and try and convince him, I knew it would be better if we went together.”

They were both as shocked as each



*Kim inspects barely later in the season after being grazed by 330 steers for two months.*

other with how little they knew about the importance of soil biology in their farming system.

“We ran a very simple conventional system and I thought we were quite proficient at it. It became clear very quickly that all we were doing was spending more to make less.”

Shannon admits at first he felt angry, misled and uneducated.

“I just wish I’d been 17, 18 or 19 years old sitting in this classroom. I would be in a lot better position health wise, mentally and agronomically today.”

Once he worked through those initial feelings, Shannon realised it wasn’t too late to change their farm for the better.

*“We knew we were on the right track to getting our soils back to where they needed to be, while financially we were moving in the right direction because of less input costs.”*

### What next?

The first thing they did was make a plan and set a budget. Although the consistent advice was to start small, trial and test on small areas first, they didn't just start with one paddock and changed their approach across a large area of their farm.

“We didn't have a really high level of debt which played a factor in us making as many changes as we did right from the beginning.

“We jumped in the deep end and didn't just start with one small paddock, but we did hold onto a few of our conventional methods in that first year.

“We were prepared to accept lower yields because we had far less input costs, as well as knowing we would have better nutrition, better water use efficiency and would be reducing our frost risk. We were just so confident that this was how we wanted to farm.”

In year one they kept their rotations the same and changed to a liquid injection seeding system.

They thought they had ravaged their soils of all biology through generations of cultivation and high nitrogen and pesticide use but discovered they still contained some bacteria and fungi. They introduced nutritional products including fulvates and humates and added stimulants to their seeds.

“The bacteria and fungi were there but they didn't have oxygen or a food source because our soils were so tight, so we introduced a whole heap of food sources to feed them.”

They retained their existing seed treatment and herbicides and introduced fulvic and citric acid. In that first year they maintained their knockdown glyphosate rates but the fulvic and citric acids have enabled them to back off those rates over time while still achieving the same level of efficacy.

### Paddock trials

When comparing two wheat paddocks in their first year the results were stark.

#### Block 1

- Kept in their standard practice system using straight urea and their traditional MAP
- Wheat screenings 5-11%
- Needed to bag a lot of grain and blend paddocks to get it through.

#### Block 2

- Same latitude, planted the same wheat variety in the same week, put their focus on nutrition and used nitrogen in the form of UAN.
- Heavier grain weights, no screenings and the same yield.

*Home-built deep ripper.*



“The biggest takeaway was just through using biostimulants and introducing different food sources for the bacteria and fungi in the soil, we ended up with heavier grain weight, no screenings and the same yield in Block 2. Worms returned, and lowering our fertiliser inputs provided a cost saving.”

## Balancing act

Along with change comes a fair share of challenges.

In a year when they went cold turkey on seed dressing, they applied high rates of UAN to boost protein later in the season.

“We had gone away from using urea and went all foliar. We were getting tremendous results and the cost was less, but we were still making our crops crook.”

In trying to get to the bottom of it, they worked out the cause was the mass application of higher rates of UAN.

“We put on such a high salt index form of nitrogen and too much of it. Bringing extra nitrates into the plant changed the sap pH, opening them up to fungal pressure.

“They were crook because they weren’t balanced and we were getting late stem and leaf rust in our wheat. We were putting out too much nitrogen when our crops didn’t need it.”

They started to back off their nitrogen rates while reminding themselves their yields would be less than their neighbours.

Shannon says the change in mindset is one of the biggest challenges when it comes to nitrogen.

“We still need to be putting nitrogen out in our system during the transition phase, and in a year like we’ve just had we definitely could have put more nitrogen out. Initially I felt a bit disappointed with our wheat on canola stubble which went 3t/ha but then I have to remind myself that this was with just 25kg/ha of urea and 25kg/ha of SOA that we had leftover which we put on to help get the crop out of pre-emergent herbicide damage. In context it’s still a pretty positive result.

“We knew we would get reduced yields compared to the district average, but we had to stop looking over the fence.”



*The challenges of mixing nutrition.*

They are using fish kelp molasses down the tube and last year for the first time they didn’t put any MAP fertiliser or nitrogen down the tube. They also didn’t use any fungicide or insecticide on their seed, instead using biostimulants, fish kelp, zinc and humates.

Shannon says high fertiliser prices prompted them to make large-scale changes, but they felt confident doing so because soil tests showed locked-up phosphorous underneath the soils.

“We’re using the biology to make the phosphorous soluble, and with the addition of seeing our mycorrhizal fungi network increasing the water use efficiency with better infiltration by building humus in our soils, we feel like we’re on the right track.”

He says it’s important not to be too rigid in their approach, and still use fertiliser when needed. For example, on a block with herbicide damage in their wheat they’ve used urea, UAN and MAP. They are also maintaining the MAP fertiliser program on their lease country.

## Budget and plan

They have a set budget for wheat yields over three years, with the aim of growing three to four tonnes a year no matter what the year is like.

“We have to turn away from the years where there are going to be phenomenal wheat yields in the district, which we won’t have. But we haven’t spent the money either, so even with lower yields we’re still going to be profitable.”

*“It comes back to working on that three to four tonne yield whether it’s a dry or wet year and only spending \$110-\$150/ha to do it.”*

They have everything marketed through a consultant who specialises in weather forecasting and marketing commodities.

“We’ve got our prices locked in at peak commodity prices, which means we’re less exposed to current cash prices. We know what we’re going to get.”

Last year they hedged 80% of their wheat and barley and hedged 50% of their worst yields in canola.

“As it’s turned out, our canola was better than we planned for, so it’s more like 30%.”

Shannon says they have been getting heavier grain test weights because of the better nutrition in their plants, and along with what they’re saving on input costs, they are where they want to be.

“In our old system we’d need to grow an extra tonne of canola to cover our input costs, which means in an area which averages less than 2.5 tonnes a hectare in a dry year, we’d have to grow 3.5 tonnes a hectare. That just doesn’t happen unless you get a year that is not the norm.”

On their own ground it is costing between \$110-\$150/ha to grow a 2.5-3 tonne canola crop ha.

“In some of our soils 75% of our phosphorous inputs were locked up in our alkaline soils in the first 6-8 weeks, so beyond that the plants couldn’t access it.

*“Although it might sound like we’re cutting corners, why spend money on inputs on something that’s already there in the ground?”*

“Now that we have the keys to unlock it, the phosphorous is showing up in our tissue tests. None of our tissue testing results or visual observation is showing a deficiency. We have acceptable levels

of phosphorous all through the growing season, without using fertiliser.

“It’s all part of getting the biology going, giving them the oxygen and food source they need.”

### **Challenges of a wet year**

Due to a wet spring, 2022 was the first year in the past three they’ve used fungicide in-crop.

“We used two light fungicides mainly on lentils, wheat and barley as a preventative because of the mass disease pressure around us. We used lower rates than the recommended label rates, and on our wheat we didn’t get any disease and only got a small amount in our lentils and barley.”

They used a pre-emergent insecticide on their canola, after two years without, to control false wire worm.

“We had removed the pre-emergent insecticide as part of our changes, but we were losing a lot of seedlings to false wire worm. When we were buying seed in at \$30-\$34/kg it was too expensive to lose.”

They hoped fish kelp and other nutrients they applied would help with plant resilience against late disease in canola, which it did.

“It was one of those first-hand learning experiences which fortunately worked in our favour. It doesn’t mean we didn’t worry about it, but bad patches of sclerotinia in the canola disappeared within two weeks of applying fish kelp and nutrition, without having to apply a fungicide.”

The 2022 growing season and harvest ended up being one of the wettest they’ve experienced, and some areas were under water for two and a half months.

“We were already under pressure from a full moisture profile before going into the growing season, and although we still have a lot of work to do to get our soils to where they need to be, when there is that much water which can’t get away you just need to accept there is nothing you could have done.”

### **Gross margins up**

Shannon says a lot of people say you can’t continue profitably in a regenerative system but what they’re experiencing so far is proving that wrong.

“In the 2021 harvest we had some of the highest grain rates I’d ever seen on our farm. We are making monstrous changes and we know we’ve hardly scratched the surface of what we can do.

“We’ve gone from a high nitrogen system, blanketing our paddocks with urea and always having trouble with screenings especially in a harder finish, to a more balanced approach with better nitrogen and nutrition management. Since changing we’ve had next to no screenings.”

In the first three years of the new system, they profitably grew three tonne wheat crops. Others in the district have had much higher yields in a run of ‘bumper’ seasons, but lower risks and input costs are making all the difference to the Byron’s bottom line.

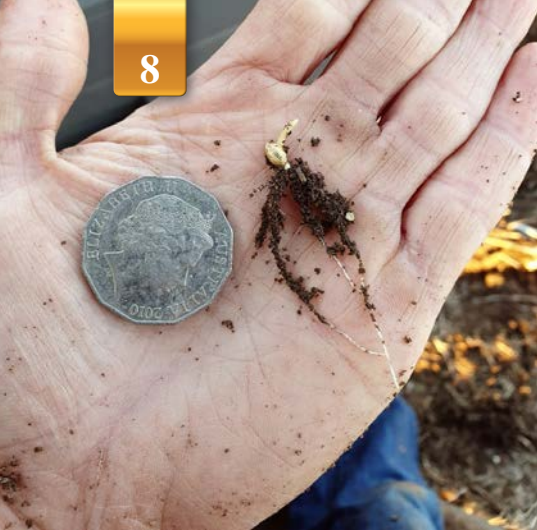
Lowering the nitrate levels in their plants, which bring water in and open plants up to freezing when the frosts hit, is also paying off. Deep-ripping trials are also bringing extra yields.

“We’ve stopped aiming for big biomass crops and started seeing ourselves as grain growers, not hay growers. Driving around the district and everyone’s crops look magnificent and ours look below par but they have still yielded well and we are happy with our gross margins.”

### **Multi-species**

Shannon says they are working towards planting as many species as possible. In their first year of change they wanted to sow 16 species in straight away but it didn’t suit where their farming system was.

“With commodity prices at the time and the way our farm was set up we opted to stay with cash crops and forward market them, because we worked out the benefits of our cash crop



Barley seed 4 days post sowing.



Windrowing barley post spraying out the vetch.



A paddock average of 4t/ha.

program outweighed going into multi-species cover crops straight away.”

What they didn't realise was that they were already enjoying the benefits of multi-species cropping by accident when eight years ago they used multiple species to control resistant radish and rye grass.

“I was sick of this particular paddock and decided we were going to make it either a hay or grazing block for the next 10 years. To control the radish and rye grass we started growing vetch, barley and whatever else came up with it.”

## This is now the most profitable block on their farm.

In the 2021 season barley went four tonnes a hectare after being grazed most of the year and spraying out the vetch late. Input costs have been minimal.

“We achieved this without spending anything except for herbicide to take out the vetch, which also took out some radish that had come through. The protein was 13.1%, and it was evident the vetch was putting nitrogen back in.

“We were just trying to get on top of the rye grass, little did we know we were onto something. It produces a massive amount of feed and we can't even graze it enough with sheep or cattle.”

Shannon says his new way of thinking also took him down a different path to control an insect problem in this paddock.

“It was an out of the ordinary warm day and there was a mass infestation of cow pea aphid, blue oatmites and red legged earthmite. My first thought was I had to spray, but I observed the paddock more closely and noticed an abundance of predatory insects such as ladybirds and parasitic wasps. There was also an abundance of native bees.”

He decided to give the paddock seven days, and if the insect problem was still there, he would spray insecticide.

“I went back on the fifth day and all the cowpea aphids were gone. The blue oatmites and red legged earthmites

were still there but in lower numbers and weren't causing any damage. By September you wouldn't have even known they were there, and the barley and vetch were up to the window of the ute.”

That month they locked down 330 head of steers and tried cell grazing but couldn't keep up with the workload of shifting fences and water, so ended up giving them free reign of the 156 hectares.

“We had feed in that paddock until April the following year, and ended up finishing the rest of our heifers in there too. It cost us virtually nothing to grow.”

Shannon is fascinated to know more about what's happening in this paddock, which puts the multiple uses of their new system on full display.

“We've found that keeping it simple with minimal input costs, no chemicals or synthetic fertilisers, is getting us good results on several fronts. Although rust and scald are still present, they don't kill or rob the barley and vetch of biomass and yield.”

This year they will sow a cash crop in this paddock then go back to growing as many species as they can source. They are also planning to grow multi-species crops across a larger area of the farm.

“We can see so many opportunities opening up in our system with multi-species.”



Basic multi-species of vetch and barley with no inputs. Paddock had been grazed prior to this photo. Pre-sprayed vetch to harvest barley.





*“We’ve hardly even scratched the surface with the changes we’ve made so far.”*

### More worms

Another big change has been a ‘massive’ increase in the number of worms in their soils.

“The year after we started changing direction we were digging up ‘plough worms’ with the air seeder. We’d never seen worms that big, some were 20-30cm and we thought they were baby brown snakes. These were in paddocks including some of our worst country of sand over clay.” They also have mushrooms growing through all their crops, even after applying in-crop herbicide and fungicide.

### Positive farming community

Shannon says they are also looking into how their farming practices have changed their soil’s organic carbon levels.

In 1985 Kim changed to minimum till sowing into stubble and shifted away from burning stubbles except when they couldn’t control rye grass.

At the time their soils tested 1% of organic carbon.

More than 30 years on, in a minimum till system with sheep, legumes, growing vetch, not burning and other practices ‘meant to’ improve long-term sustainability, they tested their carbon levels again. They tested 1.1%.



*“We were shocked. All these changes for 0.1% improvement in organic carbon levels?”*

We know now that this is mainly due to our high nitrogen use.”

Since lowering their synthetic nitrogen, herbicide and fungicides, they’re up to 1.7% of organic carbon, in just three years with minimal changes.

I’m excited to know what we could actually do in a multi-species system and cell-grazing cattle; there are so many more things we can do.

“The evidence is there that we’re heading in the right direction for a more sustainable future long-term. When the next dry period comes we know this system will shine even more and we will be more resilient.”



## Where do you start?

Q&A with Shannon Byron

### How do you feel your farming system is tracking with the changes you've made?

We are learning as we go but our whole system works so much better and at the end of the day we're producing healthier, more resilient plants. This benefits more people than just us. Our input costs are now between \$110-\$150/ha and within that is the cost of our pre- and post-emergent herbicides.

### What would you suggest to other farmers who are looking more closely at their farming system?

Ask questions and seek out courses, field days and other training. I would personally recommend Graeme Sait as a good starting point, as he's taught us so much. We've also attended VicNoTill paddock events and workshops and other events which are supported by Wimmera CMA who offer a lot of opportunities for farmers to trial and test changes to their land management through the Australian Government's National Landcare Program. Doing workshops and courses opens up so many new pathways and different doors and starts you in the right direction. In this regenerative agriculture space there are a lot of people wanting to share their knowledge and experience, it's a really positive environment.

### What are you aiming to achieve and how?

We are wanting to reduce our synthetic inputs without compromising the farm business. Buffering and

chelating chemicals with fulvic acid and citric acid was one of the most important things we did. We now get more bang for our buck with herbicides. Now, we always put fulvic and citric acid with glyphosate, fungicides and insecticides.

For example, Roundup works a lot better with pH levels lower than 4. We get way better burn downs with lower rates to the point I had to ask Dad if he actually used the right spray, because it was completely browned out in less than four days with the combination of the fulvic acid and knockdown we were using. It was the fulvic acid that made the difference.

For people who are putting out granular urea, we used to put humic acid on the urea to form a stable urea humate. It made the urea less volatile in the paddock, and it provided a carbon source for bacteria. We then changed to liquid, finding that fulvic acid in liquid form helped take the urea right into the plant, making liquid much more efficient.

### What were some of the challenges you had in the transition?

Fulvic acid is nearly compatible with everything but one of the earlier products we used was not compatible with sulphate of ammonia and it crystallised in the bottom of our tank. This blocked our whole liquid injection system. After that I went into creating my own brews and studied a lot of compatibility charts. It was a lot of work but exciting too because it was something new that is going to benefit us.

We were mixing some things that probably shouldn't go together on paper, but we weren't afraid to change our mixing order to get on the right track. There were certain trace elements I was having trouble sourcing, so we've sought advice from a consultant and are now getting all the traces in the right ratios, mixing it on-farm, and getting it out into the paddock.

### What have you kept the same?

Rye grass is our biggest issue so we are not cutting corners on our pre- and post-emergent program. Spending less on synthetics later in the season gives us the ability to be able to spend what we need to in controlling weeds. We are still experiencing more resistance to rye grass which is part of the reason to want to change to multi-species with termination and go back to grazing in some areas to control rye grass as an alternative.

### Can you outline your nutrition program?

We've:

- Introduced more natural forms of organic nitrogen such as fish hydrolysate and are using it on our seed because it's a good fungal food source.
- Put molasses down the tube because it's a good bacteria food source.
- Added a compost extract which contains over 2700 species of bacteria and over 300 species of fungi.

*“Everyone seems to want to help and it’s such a positive environment. We haven’t experienced anything like it in all our years of farming.”*

We are putting all these in the soil as well. We are not aiming to keep them all alive just aiming to introduce different types of bacteria and fungi to add to the biology that’s already there. Our aim is to add greater diversity of biology for the soil, whatever survives, survives. That’s been a great advantage of the liquid injection for that reason.

We were initially advised to put the UAN into the tank with the biology, and I questioned this as I couldn’t work out how the biology survived. This was part of the learning process and we’ve stopped doing this. We’ve also gone away from using high rates of UAN down the tube because it doesn’t benefit the soil biology.

We are also using a lot of kelp; freeze dried and an extract.

### **How important is plant testing?**

What we know now is that we were producing hay crops and not grain crops, and we had very little nutrition in our crops with our overuse of nitrogen. With nitrogen we were creating large biomass crops, but our plants were leaching moisture because of poor nutrition and they weren’t as drought resistant as they could have been. Our big biomass, especially in wheat, wouldn’t make it in a dry finish. Traditionally we would do an early sowing of wheat, canola and barley and we’d always have pretty reasonable looking crops. I have photos of 2010-11 where the canola was way over my head and it looked impressive, but it

didn’t yield that well. In dry years we’d have fantastic looking wheat crops but were always cutting them for hay because they’d burn out or have pinched grain.

We were flying blind and had no understanding or idea of what our plants were doing. Our approach was just to put more urea on. Zinc or copper were the main traces we would put out on seed or fertiliser. We had very little focus on sap tissue testing and didn’t consider what the plant required at different times or what it was deficient in. We didn’t know what minerals did for the plant, or what the high rates of synthetic inputs were doing to our nutrition, biology and compaction.

Since making changes, our crops might look mediocre compared to the crops over the fence but they tend to yield.

**They continue to yield to what we budgeted for, which is 3 tonnes/ha, and with lower input costs.**

In-crop monitoring has changed everything for us. We are doing 4-5 sap tissue tests through the growing season. Getting sap tissue tests back within 24 hours means we are out the next day with nutrition to rectify anything that might be a problem. There’s a list of about 14 different

nutrients we’re putting in. In the future we will introduce more multi-species and have a better rotation so we can cut back on the number of nutrients.

### **With frosts being a significant challenge, how are you reducing frost impacts?**

We have areas that get frosted every year and are using biology to reduce frost damage. We’re buying in a compost extract. We would love to do our own composting, but are time poor, so we use this extract in brewing our own teas for our anti-frost protection that we spray out prior to frosting. We are seeing evidence of less fungal pressure because cutting our nitrogen means we don’t have high nitrate levels in the plant. In the first year (2 seasons ago) our wheat yield jumped from 2.7t/ha to 3.2t/ha. We didn’t see any difference in yield this harvest because didn’t have any frosts in last year’s growing season.

### **What other methods are you trying?**

We are doing deep ripping trials to complement crop improvements we’re achieving through nutrition. Our paddocks have had mass cultivation, pesticide and fertiliser use over decades and deep ripping is greatly beneficial in some areas for a quick result.

In one of our worst paddocks the initial aim was to deep rip and put multi-species in but because canola prices were so good we put canola in. The deep ripped paddock was beside another

canola paddock with the same nutrition, same sowing time, everything else apart from the deep ripping was farmed in the same way. In the first year we gained half an extra tonne/ha of canola and we have turned our worst paddock on the farm into our best paddock.

In aerated/ripped wheat trials with Dr John Russell, combining his anti-frost biology with the deep ripping has resulted in a 0.5t/ha increase in yield.

### **How challenging has it been to make these changes?**

Change is scary. I hate to think how many nights sleep I have lost in past four years, especially with changes in fungicide use. I know you can't change overnight. We don't have the right to walk right into this new way of farming – we have to get our soil health back first and it's going to take a while to get where we want to be. Everything is slowly starting to turn around. Some minimum and no-till paddocks that were as hard as a rock three years ago are now noticeably 'soft'. Others coming onto the farm are noticing it too. We still have a lot of shocking areas and poor soil health, but at least we're aware of it and wanting to change it.

### **What happens if something isn't working how you planned?**

Never say never. Nothing is ever set in concrete as things change from day to day. You just don't know what's around the corner and we are just trying to limit the risks. One of the challenges is finding what suits your paddocks. There are times where we could have used more nitrogen in-crop and we would have had better yields. There are going to be years where you could've had a better year, but what happens if you have a hot finish? In 2018-19, someone in the district who has been in a more regenerative system for a long time was the only one who harvested wheat when everyone else cut it for hay. Last harvest we should have been putting out more urea during the season, but we don't have a crystal ball on the weather.

*Retained canola seed with no MAP or N applied. Only fish hydrolysate, kelp extract, compost extract and trace elements.*

*“If you change something and it doesn't work, don't be afraid to go back to how you used to do it. At the end of the day, you need to do what's best for you and your farm business.”*

