

Farming a passion for Robinsons

SARAH JOHNSON

Charged with painting their kitchen ceiling on a rainy day in July, Hoyleton farmers Ashley and Tom Robinson welcomed the diversion of a SANTFA interview.

The father and son farming team, who crop 1,540 ha west of the Clare Valley, need little encouragement to discuss agriculture.

“Agriculture is basically the only thing we ever talk about,” reveals 24 year-old Tom, who joined the farm three years ago.

It is a passion inherited from four generations of Robinsons who have farmed the land near Balaklava since 1921. The connection stretches even further back, with Ashley’s mother’s family clearing scrub west of the current property in 1875. “It runs deep in the veins,” said Tom. “I always wanted to be a farmer.”

With Ashley’s father Greig, 91, still keenly interested in the farm, their enthusiasm for agriculture isn’t likely to abate. Greig retired three years ago, but would still work the land if he could.

What sets Ashley and Tom apart from their forebears is a drive to constantly evolve their farming systems. “My dad never changed,” said Ashley. “For his entire farming life he did exactly the same as the day he started, except that he changed from a horse to a tractor. But he never stopped me from making changes and he’s not stopping us now.”

Ashley was one of the first no-till farmers in SA when he converted to a no-till operation more than 15 years ago and has owned a John Deere 1890 disc drill set up to sow on 190 mm spacing for the past 10 years.

The change to zero-till in 2002, after five years of no-till, was driven by the need to better manage residue, which remains a high priority today.

His no-till seeder was a Gason 5100 Cultimaster with super seeder points on 228 mm spacings.

“I wanted to keep more straw but had a lot of trouble with it blocking up all the time and having to go back and prickle chain,” he said.



TOM AND ASHLEY ROBINSON IN THE Paddock.

“There was only my father and I working the property and Dad was 80 years of age, so we had one old man and one getting older. Manpower was limited.

“I got sick of not being able to get through all the straw and I didn’t feel our depth of placement was good enough. I thought the disc would be able to cure those problems, so that’s why I changed.”

After a decade of disc seeding, residue management remains at the top of their fix-it list.

“We still haven’t fixed residue management, even after 10 years,” said Ashley. “It’s just got to be perfect, you can’t compromise on it.

“When you get it right the disc is magnificent; when you get it wrong, it’s pretty ugly.”

Hairpinning caused the most issues in the early stages of disc seeding, with longer pieces of straw pushed into the seed slot. Now an accumulation of fine chaff is proving problematic.

“If the long straw is lying in the same direction as we sow it doesn’t seem to be a problem,” said Ashley. “The fines are a problem now, because if the chaff is thick enough the seed is placed in it, rather than sown into the soil.

“You don’t want the fine chaff any deeper than a centimetre because the disc has to cut through it and it seems that chaff is harder to cut than straw. Not only that, but you end up with a slurry of fines, water, dirt and the seed. It’s a toxic brew.”

The Robinsons believe the solution is to spread the chaff evenly across the full width of the comb during harvest. After efforts to tweak their header to handle the volume of straw it was cutting they bought a Shelbourne stripper front a year ago to reduce the amount of straw going into the machine.

They use the stripper front in cereal crops and are awaiting the arrival of a Redekop Maximum Air Velocity (MAV) Straw Chopper to better handle canola residue during the upcoming harvest.

Both purchases followed farming research trips made by Tom; to New Zealand in 2010 and to the United States this year.

“I’ve told him that he’s only allowed to bring home ideas worth less than a quarter of a million dollars,” Ashley jokes.

Tom’s excursion to New Zealand was part of a SANTFA-organised trip, during which he visited a farm using a stripper header. “It was the first time I’d seen stubble loads like we have at home, so I

came home and said to Dad, 'we need to get a stripper header,'" said Tom; which they did after further research and testing one owned by a neighbour.

Stripper fronts use rows of V-shaped stripping fingers to strip grain from the crop. They take mostly grain, leaving the full length of straw in the paddock, so there is minimal chaff.

Ashley is pleased to see positive early signs in wheat paddocks harvested with the stripper header last season.

"The crops in those paddocks look really good," he said. "There is no accumulation of residue anywhere and I think our potentials look pretty special."

According to Ashley, the greatest challenge was perfecting the new equipment's set up.

"I had to run the stripper lower in the crop than I expected. You have to present the crop at 45 degrees to the ground. Plus the spinning rotor in the stripper varies from 400 to 600 revs a minute. I tended to run it too fast last season. This year I'll run it as slow as I can as long as I'm not leaving grain behind. If you do it right you actually leave the wheat's backbone behind and it performs really well."

High temperatures also affected the stripper's effectiveness. "The hotter it gets the worse it performs and performance is affected over about 32 or 33°C. We found 28° to be an optimal temperature."

Stripper fronts double header capacity, with grain rather than chaff taking up bin space, which the Robinsons found allow



RESIDUE MANAGEMENT REMAINS A CHALLENGE FOR THE ROBINSONS.

them some flexibility in their harvest schedule.

"When it gets too hot you can afford to knock off and wait until the evening when it cools down," said Ashley. "It goes against the grain to do this, because we want to harvest all the time, but if it's bad enough I'd prefer to leave the stripper on and wait until it cools down. The stripper does work better when the grain is a bit tough."

"We can start an hour to two hours earlier than we used to and work longer into the night, as long as the moisture is right. It can be as tough as nails out there and there are no worries."

"One of the arguments against a stripper is that you lose a lot of grain, but we didn't have an issue. Our paddocks were very clean of volunteers, so I don't think we lost much grain at all."

Ashley believes the stripper front has largely resolved residue management in their cereal crops, but the problem remains with canola. "Residue from canola caused us grief this year," he said.

"That's why we're going to the MAV straw chopper on the back of the header. Plus if we do move back to peas, beans or lentils in our cropping rotation we're going to need the straw chopper to spread the residue across the full width of the outer comb."

"It has an in-built fan in the chopping system that will produce winds of 257 km an hour to spread the chaff."

The straw chopper, which cost \$15,000, was a solution offered by leading wheat agronomist Phil Needham, with whom Tom spent time in the US.

"I met a farmer in the US who is having the same residue problems that we are and he isn't using a stripper front. Phil said that you're paying for it and you don't realise it," said Tom.

"It's costing us more than \$15,000 a year in yield losses, so really 15 grand is cheap. I believe you've got to bite the bullet and do it."

He spent a month in the United States during June and July, travelling from Mississippi in the south to the southern



GREIG ROBINSON STILL TAKES AN ACTIVE INTEREST IN WHAT IS HAPPENING IN THE PADDOCKS HE FARMED.

boundary of North Dakota. During the trip he visited several progressive farmers and was impressed with their commitment to best practice during seeding and harvest.

"I saw a lot of very good operators that take pride in their sowing operations," said Tom. "I've come home with a determination to iron out seeding and harvest imperfections on our property.

It's about attention to detail in every single part of your farming operation. We are looking for absolute perfection.

As a result of Tom's trip, the Robinsons have formulated a new management regime for their cropping operation, which includes the MAV Straw Chopper and frequent disc replacement.

"We've convinced ourselves we need nice, sharp discs," said Ashley. "Blunt knives don't work well in the kitchen and it's no different with discs in zero-till.

"We replace our John Deere discs every year. We got 1,600 ha out of them this year and we pushed them towards the end. A John Deere disc starts at 45 cm and I don't think we'll go below 43 cm now. They tend to get dull after that."

Ashley and Tom have also decided to place more weight on the seeding bar and run more down pressure on their discs.

"We need to make sure they don't ride out of the ground at all," said Ashley. "This year we put old tractor weights on the bar to improve penetration but didn't position them as well as we should have. Tom saw an example of better positioning in the US, so we'll make that change.

"We want every row to be exactly the same depth across the entire machine in every paddock. Every square inch we sow needs to be exactly the same depth, down to millimetres. If we set it at 30 mm every single seed in the paddock has to be 30 mm deep."

They plan to shift the weights further back on the seeding bar and possibly increase the amount of weight. They will also increase the hydraulically-operated down pressure on the discs.

"We've tended to run the down pressure in the safe limit, but from our research

ZERO-TILL CONVERTS 'CONCRETE' TO SPONGY SOILS

More than a century and a half of cultivation in the Hoyleton Valley produced patches of red clay soil resembling concrete, according to Hoyleton farmer Ashley Robinson.

"The red clays were horrible under the English system of ploughing and cultivation," recalls Ashley. "They used to turn to concrete and get waterlogged."

The Robinson's soils range from red sand to predominantly red brown earth, with some red clay country that has benefited from no-till.

"The Hoyleton Valley probably had its first wheat crop in the 1860s, so it's relatively old farming country. They were never going to improve the soil with cultivation, but the advent of herbicides, better fertiliser and now no-till and zero-till have made a lot of difference," said Ashley.

"Our red clays have improved significantly.

"There's no doubt we have better water infiltration. The soils don't get anywhere near as wet as they used to and the paddocks are more trafficable."

A decade of zero-tillage has produced firm soil during dry conditions and softer, spongy soil when it's wet. "The soils have firmed up without becoming harder," said Ashley. "When they're dry they're very firm, but when they get wet it's like walking on underlay carpet.

"That's the main difference I've noticed; the soils become spongy with moisture."

When it comes to assessing the evolution of their soil's health, Ashley's son Tom believes the best person to speak to is his grandfather.

A farmer for 75 years, Greig Robinson has seen massive changes on the property, especially since the family introduced no-till and zero-till practices.

"He'll come out spraying with me and say, 'that piece of ground there, I never grew anything'," said Tom. "And now it's one of the highest yielding parts of the paddock."

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we can push it a lot higher,” said Ashley.

“The reason many farmers don’t run more down pressure is because it puts a lot of stress on gauge wheel bearings,” added Tom. “But Phil Needham says he’s never seen one blow a bearing because of too much pressure.”

The John Deere 1890 has required only five bearing replacements in the past 10 years, although the Robinsons are doing more maintenance now, with new seeding boots needed and pins and bushes replaced.

Tom’s US trip also convinced them to refine their seeding depth. “I’ve realised that we’re probably drilling our wheat too deep,” said Tom.

Phil Needham, an expert in wheat management and machinery, advised him that the best wheat yields are achieved when a crop emerges within three days.

“Phil says that if the last plant emerges within three days of the first plant in the paddock, that last plant will yield three times more than one that takes seven days after the first to come out of the ground,” said Tom.

“That doesn’t mean sowing date; it’s when the plant emerges. From the first seed emergence, you’ve got a three-day window. Plants that are delayed lose significant yield potential.

“It could be the difference between 2 t/ha and 6 t/ha. It’s substantial.”

The Robinsons previously placed seed 32 mm deep but plan to reduce this to 25 mm next year. “Phil has shown that 25 mm is the optimum depth for wheat,” said Tom.

“It’s very exacting,” said Ashley, “but wheat seems to be very sensitive. I was told years ago that if you sow too deep the plant won’t tiller, but this advice from Phil is an even bigger bombshell.”

This advice means the Robinsons are having to re-evaluate their approach to moisture at seeding time, because in the past their seeding depth has been determined by moisture levels, with crops often sown deeper to reach moisture in the soil.

“This year we were like everybody else; we chased moisture, making sure the seeds were placed near moisture,” said Ashley. “Taking Phil’s advice, we may have to sow our crop into dry soil, knowing that could delay emergence

because it’s not wet enough.

“The question is: are the penalties from deep seeding greater than the penalties from sowing dry? Only experience is going to tell us the answer.”

By accident, they may have touched on the answer by sowing one paddock dry and shallow this season. “By default, we

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sowed a paddock at 25 mm this year,” said Ashley. “The back wheels of the John Deere disc weren’t touching the ground; it was maxed out and couldn’t penetrate the soil any deeper than 25 mm.

“When it did rain, the crop was up in three days. There were hedges in three days and it looks pretty impressive now. It probably has six or 7 t/ha potential, as long as the season finishes kindly.

“It was sown shallow by accident and we wouldn’t have realised the significance of the shallower seeding depth if Tom hadn’t found out about it in the US.”



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