Multiple benefits from harvest-time weed control

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A COMBINATION OF HAY MAKING AND AN EFFECTIVE HERBICIDE AT HARVEST CAN RUN DOWN THE WEED SEED BANK AND GO A LONG WAY TO PROVIDING CLEAN CROPPING PADDOCKS.

Fitting a spray boom to his mower-conditioner so he can spray as he cuts his hay has improved weed control and soil moisture conservation for Mid North farmer Tom Trengove.

It has also improved hay quality.

Motivation for addition of the boom, which he has been using for a decade, was the amount of weeds and re-growth in cereal hay paddocks after cutting.

Tom farms at Spalding with his parents Glen and Lindley and older brother Sam and his wife Rachel.

They crop about 1,500 ha of their 2,100 ha property, with the other 600 ha managed as grazing land for their 1,800-ewe self-replacing Merino flock.

Their cropping program is structured around wheat, canola, barley and hay, which has been an integral part of their farming enterprise for the past 30 years.

In the late 1990s the Trengoves began noticing an increasing amount of green vegetation in hay paddocks after cutting and in 2002 mounted a spray boom on the back of their mower-conditioner. The aim was to spray out the regrowth to stop it contaminating the hay and extracting valuable moisture from the soil. Spraying also helped ensure weeds did not set seed and add to the weed seed bank.

"Hay is a very important commodity in our farming rotation," said Tom, the fourth generation of his family to work the Spalding property. "We see it as our best tool to combat weed burdens, particularly rye grass. If weed numbers begin to build up we will often grow two years of hay followed by a canola crop to eliminate the problem.

"We also use hay to manage frost risk. We have a lot of low-lying country that is prone to frosting and is too risky for grain crops but will produce a good hay crop and feed for our stock.

"Hay was particularly successful for us through the dry periods of the 2000s. Prices reached record highs and the extra feed was vital for our stock. Because weeds are cut with the hay, hay paddocks also give us grazing that is free from seeds that can cause problems if they get into the wool."

According to Tom, he and his family were the first farmers in the area to mount a spray boom on their mower-conditioner and, 10 years later, it is still rare sight, although modern self-propelled windrowers are often set up for spraying as part of the windrowing process.

"Approximately 10 years ago we became concerned with the amount of regrowth we were getting once the hay crop had been cut. The hay-making period can often be wet and we were seeing a lot of regrowth growing through our windrows. Much of this green material was picked up and wrapped into the hay during baling, which in years when there was a lot of regrowth could cause problems with higher moisture levels in bales.

"We also wanted to kill the weeds as soon as possible. Weeds such as ryegrass, brome grass and wild oats were and still are the major problems in our area.

"With this in mind we attached a sprayer to the back of our tow-behind mower-conditioner. The spray tank is fitted to the front of the tractor and the boom is mounted at the rear of the conditioner. The boom is positioned below the rollers so the herbicide is applied before the hay reaches the ground, so hay is not getting sprayed.

TOM TRENGOVE READY FOR ANOTHER SEEDING SESSION.

"Balco (a hay exporter) tested our windrows a few years back and no chemical reside was found in the hay."

The Trengoves have 'always' grown hay in one form or another.

"We usually grow between 100 and 250 ha of oaten hay for export, depending on market outlook and weed burden," Tom said.

"Previously we used to grow dry-land lucerne hay. Until 15 years ago we produced tens of thousands of small lucerne bales for the horse market off our Hill River flats. Then Hill River dried up as the Clare Valley vineyards expanded, which reduced our potential lucerne area by about 200 ha. Now our only lucerne is about 100 ha we grow on our Yakilo creeks flats for grazing, not hay making.

"A few years ago we switched to Winteroo oats because of its high yield potential, but we started to see some quality issues with it. It is quite susceptible to leaf rust and on several occasions we got a price penalty for having leaf rust in the hay, so last year we replaced Winteroo with Mulgara, which has better disease resistance but yields slightly less than Winteroo.

"This is only our second year growing Mulgara, so we are yet to determine which makes us more money; quantity or quality," he said.

Tom believes the variety of oats being used for hay has little impact on the results from spraying behind the mower.

"We have changed varieties over the course of 10 years and the sprayer has had the same affect.

"Since we began using the sprayer on our mower-conditioner we have had no regrowth in our paddocks, so we have had no moisture problems in our hay as a result of green material and have had 100% weed control."

They use a similar set-up to kill weeds at harvest time in their canola paddocks.

"We fitted a boom behind our canola windrower at about the same time as we began spraying behind the hay mower," Tom said.

"Since the introduction of self-propelled windrowers around the place, spraying during canola windrowing and hay cutting it is now seen as common practice."

The Trengoves have been producing export hay since the market was established approximately 30 years ago. They currently have contracts to supply Balco and Johnsons and retain a small tonnage for their sheep.

Conservation farming

Tom and his family are no-till farmers and use conservational farming management practices where possible.

"Stubble retention to retain moisture is a high priority on our property," Tom said.

"Last year we installed a guidance system with 2 cm accuracy in our seeding tractor so we can inter-row sow, which will make it easier to establish good crops in paddocks with high stubble loads."

Diversification

Each year before harvest the family works out a plan for the next growing season detailing what they will grow how and when.

"We try to stick to our rotation but can be flexible with the area sown to each crop, depending on the market outlook. We sit down with our agronomist, Peter

Hooper, every year before harvest begins to decide the next year's cropping plan so we know how much seed to keep.

They usually sow approximately 400 ha of canola, 600 ha of wheat, 300 ha of barley and 200 ha of hay.

They grow conventional and hybrid canola – this year the varieties are AV Garnett and Hyola 575 CL – and hard and APW wheat. This season they have sown Gladius, Scout and Pugsley wheat and Commander and Keel barley. Mulgara is their hay oat this season and they also sow oats, vetch or clover for sheep feed depending on the season and the paddocks available.

"We changed from TT canola to a hybrid variety three years ago to chase more yield and this has been successful," Tom said.

"Malting barley variety Sloop SA was replaced with Commander as the demand for Sloop disappeared. Our wheat varieties chop and change a bit as we try to find the perfect wheat, which has not yet been invented. We are looking for a a variety that doesn't sprout, has good disease resistance, good quality and is high yielding.

"I feel diversity is definitely the key to managing a successful farm in our area. You can't afford to have all your eggs in one basket as the markets are always changing and you can't chase rainbows.

"A range of crops is required for disease management and to spread risk. Our area is also prone to frost so it is important that we have crops flowering at different stages to spread our risk of frost damage," he said.

The future

Tom's priorities are the business and family.

"My mission is to manage our family business so it will be physically and economically sustainable and diverse. The business will be managed in a productive, friendly, trustworthy and efficient working environment.

"In five to 10 years' time I would like to see that our farm is comfortably looking after my brother's and my families and our parents are well looked after in their retirement. I would also hope that there is an opportunity to expand the farming area.

"Above and beyond all, this must be achieved while maintaining a healthy and happy lifestyle – work to live not live to work," he said.

He believes agriculture has a promising future, particularly with new technology and a growing population.

"I think the future for agriculture looks exciting. With the predicted population growth causing demand to outstrip supply, I would like to think that the market outlook for all our commodities looks profitable, assuming costs remain sustainable.

"The adoption of improved and new technology certainly looks likely to increase in our cropping enterprises in the future. With satellite and mapping technologies being constantly improved and more readily available we will be measuring and recording field data on aspects we never thought about a few years ago.

"How far technology will go is anyone's guess. Who knows, cab-less tractors may not be that far away."