

Andrew & Jacinta Todd

Harvest weed seed control is “every paddock, every year”.

Owners:	Andrew & Jacinta Todd
Location:	Dowerin, Western Australia
Farm Size:	4200ha 95-100% crop
Annual average rainfall:	320mm
Soil types:	20% light, 60% medium, 20% heavy
Crop program (2017):	Variable deep white sand, heavy gimlet clay, salmon gum loam, sand over gravel
Typical Rotation:	Rotation varied and flexible. Wheat is a priority as it is the significant profit driver. Approximately 20% break crop

The Todd family of Dowerin in WA’s wheatbelt have been using harvest weed seed control (HWSC) for many years.



Image: Harvesting at the Todd's

They began dropping windrows out of the header in the 1990's and then moved to narrow windrow burning before moving to a chaff cart about twelve years ago. For the last two years they have used a combination of narrow windrow burning and a Seed Terminator.

With the majority of the farm being continuously cropped, narrow windrow burning wasn't the ideal situation with variable results and a desire to move away from burning paddocks. They even extended the width of the header front, to capture more biomass in the narrow windrow to try and achieve a better burn with limited success.

A chaff cart was the next method of HWSC as they offered a high level of weed control without weeds being concentrated in the windrow. In changing from one form of HWSC to another, Andrew didn't notice a significant difference in grass weeds from narrow windrow burning compared to a chaff cart. While there were no sheep in the system, Andrew says it wasn't even a consideration of not using the chaff cart as weed control was the focus.



The Seed Terminator in action



The header in full flight

“If you are going to go to the effort of dropping a windrow, towing a chaff cart or fitting seed impact mills on the rear of your harvester then you need to capture as much weed seed as you can” Capturing “as much weed seed as you can” is a difficult task in low biomass crops, such as those less than 1.5 tonne to the hectare and as a result, Andrew has changed the way he establishes crops and made modifications to the header to capture as much weed seed as possible.

Crop competition is very important to the Todds' who run a seeder with 10-inch row spacing and increase seeding rates to maximise yield potential and compete with weeds. Rotating and utilising newer chemistry is also a big component of Andrew's weed control strategy.

While the property is spread over several farm locations, the cropping program follows a block system allowing early harvesting of weedy paddocks. “if you can prioritise harvesting of weedy paddocks you should.” Some weeds pose more difficulty in catching their seeds than others.

For instance, when checking header losses, he noticed that brome grass wasn't being captured in the mill this year during harvest. Brome grass isn't good at getting collected into the header but it is very good at getting out of the header in the straw fraction being a light elongated seed that isn't easily captured when harvesting heavier plumper grains. Harvesting low is key for Andrew, and he says he is still not collecting all the weed seed there.

Typically, he sets header height just above the ground, commenting that the knife does wear faster because of the increased dirt it picks up.

The header front has been set up with narrow knife guards and there has been an improvement in the cutting in thinner crops, including ryegrass and brome grass. A cleaner cut has meant that more crop and weeds will fall onto the draper belt and can get through the mill.



Andrew Todd in front of his harvester.

For Andrew the incentive to consider a Seed Terminator was that “when you leave the paddock with the header, it (HWSC) is done.” Because the mill destroys weed seeds, it is important to capture every weed seed you can because then there is no chance they will germinate next year. It also had the added benefit of distributing crop residue back over the paddock, not concentrating it as previously occurred. It means he can leave a paddock following harvest and know that apart from summer spraying, spreading lime etc, the paddock is prepared and ready for seeding.

In saying that, canola may be the compromise and narrow windrows burnt as a result as the inability to cut as low as desirable and also blockages to the header with green stalks significantly slowed down capacity. “It’s a whole package.

HWSC is not a Band-Aid, it’s just another practise that you add to all the other ones you implement. It’s the last chance you get, you’ve had the whole season doing everything you can to control weeds and harvest is your last chance to get those weeds.

“If you’ve got it (weed seed) in your harvester why would you return it to your paddock?” For Andrew, harvest weed seed control is something that just happens. This approach to weed control is allowing the Todd family to farm the way they want, not the weeds dictating how they farm.

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For Andrew he had the confidence that ‘the research shows it works.’ And so, he persisted with it and has over time noticed a significant reduction in the ryegrass population. As ryegrass levels were at low levels, wild radish became the primary target and this is where the chaff cart excelled.

Burning chaff dumps became a fine-tuned operation with a 60 foot Kelly chain providing a firebreak and then fluffing up the dumps by opening them up with a length of railway iron attached to the front of a loader enabling a good consistent burn.

For Andrew he considers HWSC something that is done in “every paddock, every year.”