

CASE STUDY

Adrian Perks

Adrian farms east of Esperance and has been using a chaff deck for a number of years. Coming from a mixed cropping/livestock program, he had been using narrow windrow burning to control weeds at harvest. He has since moved to a 100% cropping program and found weed control easier now that he is not dealing with the weeds from the pasture phase. However, due to the logistical challenges of burning, he now uses chaff decks to control weeds at harvest.



"With a wet summer and residue from 3 or 4t/ha cereal crops, the rows were becoming hard to burn." Seeing that weeds were going to continue to be an issue for cropping, Adrian moved to chaff decks for his headers as a low-hassle form of HWSC.

Adrian runs New Holland harvesters (a CR9080, CR6090, and CR970) all which deliver the chaff to the spinners and the straw to the chopper separately. As his harvesters have a pre-existing baffle to separate straw and chaff, he has not had to modify them in any way. However, he has added trailing rasp bars and peaks to his rotors to help barley thresh better, and felt that this would help thresh ryegrass seed out of the straw and into chaff. This in turn would mean more weeds end up going through the chaff decks and fewer going out with the straw.

Adrian said that he has not necessarily seen a decrease in weed numbers, but where he had issues before, he has shifted the distribution. "Now, they are in places where we can deal with them."

Adrian has recently changed the way he manages the chaff tramlines through the year.

"For the first years, the chaff lines were unseeded, so the weeds there had no competition and were setting too much seed. It worked out to about 5% of the paddock not being sown. Now, we use disc modules in place of the tines, so we wouldn't throw too much chaff around like we thought we would with a tine. But the tines don't throw much chaff around anyway, as it just flows around the point so we are contemplating using a normal tine in the wheel tracks to get better crop establishment."



The past three summers have been dry for Adrian, and he is confident that he can sow into cereal stubbles without getting a blowout of wild radish or ryegrass.

He attributes this to getting rid of the pasture phase and his perennial use of harvest weed seed control (HWSC).

IMAGE: *The EMAR chaff decks have not required much maintenance.*

"The chaff lines just get seed and no fertiliser to slow the weeds up a little bit. In the heavy country the disc just runs along the top and the crop in those rows doesn't get a good establishment. Where you have good crop establishment, the weeds are generally small and down the bottom of the canopy and shaded out. Where you have poor crop establishment they get all the sunlight and have a chance to make it to the top."

As for operational problems while using the decks, Adrian says that there are no big issues. The chaff can block in damp harvest conditions, especially against the dividing baffle inside the machine. "We have cameras on the decks to monitor them, as the chaff can begin to pile up if the machine stops suddenly whilst harvesting". As for other benefits, Adrian said that they rarely get a spray failure during summer spraying that can be attributed to dust, as the chaff in the wheel tracks suppresses dust.

Adrian also sharecrops a block with a neighbour who runs sheep on the stubbles over summer. Adrian said the chaff lines get selectively grazed over summer by the sheep, and there is a stark difference between where the sheep have grazed and where they haven't. Adrian wasn't sure if having sheep grazing the lines lead to a greater weed germination the following year, as it could vary depending on the season.



IMAGE: *Shown is where chaff was excluded from the wheel track.*

Based on his gut feel, he said that there must be some rotting of weed seeds in the chaff tramlines.

"Anywhere that you have a thick patch of weeds that are brought to the tramline, they must not be all germinating. It just doesn't seem like there are enough weeds germinating. Generally, if you don't have a wet spring, you don't see late weeds in the chaff tramlines in crop, except for where you drive the sprayer. They get squashed into the dirt and get good seed soil contact. But, we have had other issues. We have had canola come up in the chaff tramlines 2 years after growing canola. The chaff lines had stayed dry enough and did not rot. And it makes sense that if the canola can last that long then the weeds could too."

Looking to the future, Adrian said that ideally, he would like to move to an iHSD, but not until it has been proven in the paddock for a number of years, and when it was time to replace his harvesters. One of Adrian's grievances with the chaff deck system was that it wasn't destroying the weed seeds and are still relying on chemicals to reliably kill all the weeds.

